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EDITOR — Harold M. Camp. EDITORIAL BOARD — James H. Hutton, Chairman, Frederick H. Falls, Josiah J. Moore, Edwin M. Miller, Chauncey C. Maher, Harry S. Gradle, Harry Culver, Walter Stevenson, Raymond W. McNealy.

Editorials

EDITORIAL BOARD PRESENTS AWARDS FOR OUTSTANDING JOURNAL ARTICLES

At a joint meeting of the Editorial Board and the Journal Committee of the Illinois State Medical Society, winning authors were selected in the first annual scientific and literary competition for the best articles published during the fiscal year in the Illinois Medical Journal.

Henry C. Sweaney and Warren H. Cole of Chicago, and John R. Porter of Rockford were judged winners.

Awards are offered in two fields: $100 for the best paper from a literary standpoint, and $200 for the most outstanding piece of original work as presented in an original paper or scientific editorial. The awards were authorized by the Council June 9, 1946, for fiscal year, beginning with the July, 1946 issue.

Dr. Porter was declared the winner of the $100 award in the first group — best written article from the literary standpoint — for his work on "The Positive Serological Reaction Is Not a Diagnosis of Syphilis." It appeared in the February, 1947, issue of the Illinois Medical Journal. His paper also was considered as a contestant in the second group and was listed as an outstanding contribution in the scientific as well as the literary field. Professor Irving J. Lee of the Department of Speech of Northwestern University, assisted in the judging of the literary award.

In the second group, the vote of the committee ended in a tie between Dr. Sweaney for his article in the November, 1946, issue: "New Application of Laboratory Methods in Diagnosis of Tuberculosis," and Dr. Cole for his article on "Carcinoma of the Colon," which appeared in the May, 1947, issue.

The Council, by a special vote taken by mail through the secretary's office, voted to issue duplicate awards of $200 each to Dr. Cole and Dr. Sweaney.

Special mention was also voted for Russell D. Herrold of Chicago for his October, 1946, article on "Indications for Antibiotics in Urinary Tract Infections," and to George Shambaugh, Jr., of Chicago, for his November, 1946, report, "Preliminary Results with a New Fenestration Technique."

These awards are the first in the Society's annual competitions for the best written and most outstanding scientific articles appearing in the Illinois Medical Journal. All material published by members of the Illinois State Medical Society during the year ending June, 1947, were eligible for the awards.

In judging the best articles for the scientific award, the four highest candidates — Herrold, Sweaney, Cole, and Snambaugh — were listed for further consideration with committee members polled on a basis of four points for first, three for second, two for third, and one for fourth. This ballot resulted in a tie between Sweaney and Cole. The tie was put to another vote and

this ended in four votes for Sweaney and four for Cole.

The committee then recommended that duplicate prizes be given to Sweaney and Cole and that the secretary request Council approval of this recommendation by mail.

In future years, winning articles will be selected on a point system devised by Dr. Harry M. Hedge of Chicago, chairman of the Journal Committee, and adopted at the joint meeting of the Editorial Board and the Journal Committee.

This system awards points to an article according to: (1) what it contribute scientifically; (2) how easy it is read; (3) construction and grammar; and (4) with what authority the author writes (bibliography, research, etc.)

The awards are limited to members of the Illinois State Medical Society for original articles on scientific editorials published in the Illinois Medical Journal during the fiscal years — July to June.

JOINT STUDENT LOAN FUND SET UP BY SOCIETY AND I. A. A.

The Council of the Illinois State Medical Society at its meeting in the Palmer House, Chicago, December 7, adopted a resolution moved by the Committee on Rural Medical Care authorizing participation with the Illinois Agricultural Association in sponsoring a $100,000 Medical Student Loan Fund for financing medical education for rural youths.

The plan, designed to increase the supply of physicians in rural areas by bringing medical training within the financial reach of farm boys, was devised by the Committee on Rural Medical Care of the Society, headed by Harlan English, M. D., of Danville, and a committee of the Illinois Agricultural Association.

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The plan involves a maximum contribution of $50,000 each from the organizations over the next ten years, which will serve as a revolving loan bank from which loans will be made to accepted medical students at the rate of $1,000 a year to a maximum of $5,000 per student. The Society's contribution, as fixed by the Council's resolution, is limited to $2,000 the first year, $4,000 the second year, $6,000 the third year and $8,000 the fourth year, to a maximum of $50,000 over the 10-year period 1948-58.

A "Farmer and Doctor Loan Fund Board" will administer the program, composed of three members of each organization. Edwin S. Hamilton, M.D., of Kankakee, Everett Coleman, M.D., of Canton and Harlan English, M.D., of Danville, were appointed as members from the Illinois State Medical Society. The Illinois Agricultural Association, which approved the plan at its meeting in St Louis last month, had not yet appointed its delegates.

Students seeking loans under the plan must conform to certain requirements.

The principal condition, basic to the purpose of the plan, is that each must agree to return to a town of less than 5,000 population in his home county and practice general medicine, not a specialty. Other conditions are:

That the student be a native of the county from which he applies, unable to finance his training, but free of debt.

That he be recommended, in writing, by both the local medical society and the local farm bureau.

That he be able to pass the aptitude tests of the University of Illinois medical school, or the equivalent.

That his medical training be taken in an approved medical school.

That he agrees to repay money advanced from the fund at 2 per cent interest, in five annual payments after he begins to practice medicine. (If he fails to keep his agreement to practice in a rural area, the interest rate will be 7 per cent.)

That each student, to protect the loan, take out a ten-year term life insurance policy for $5,000 payable to the Board, premiums to be paid by the Board out of money lent to the student for the five years during which he is in school or internship, and by the beneficiary himself once he begins to practice until the loan is repaid in full.

That each student agree to repay the loan and accrued interest at once if he abandons his medical training.

The loans are intended to finance only the actual four-year medical course and the one year internship required by Illinois law. They will not finance high school or premedical courses.

The financing plan will make it possible to accept four new students each school year beginning in the fall of 1948 through that beginning in 1952, so that by 1957, twenty students will have been financed from the original fund.

However, by 1953, the 1948 group will have begun to repay their loans — a process that will be completed for them by 1958 — so that this money can be made available for additional students, and the whole sum can be turned over repeatedly as long as needed.

The program is believed to be the first instance of such cooperation between farm and medical groups, to solve their own problems with their own funds.

Its importance is emphasized by studies which show that replacement of doctors in downstate Illinois is not occurring, that in another ten years more than half the doctors in rural Illinois will be superannuated and that the supply of doctors is directly proportional to the per capita income of predominantly rural counties. The program is designed to meet those specific findings.

THE 1948 ANNUAL MEETING

The Annual Meeting of the Illinois State Medical Society in 1948 will be held at the Palmer House, Chicago, on May 12-14. Once more the annual meeting will begin on Monday morning and continue through Wednesday. For the first time there will be three full days of general assembly programs with all scientific sections participating, and the usual sessions of individual sections will be eliminated.

The Committee on Scientific Work (composed of the officers of the sections and the general officers of the Society) met on November 9, to make tentative plans for the scientific programs. The committee unanimously decided upon the above arrangement, which was subsequently approved by the Council. As has been

done for several years, the committee selected its executive committee to be responsible for assembling the programs for the entire session.

The meeting in 1948 should be an unusually interesting one, with the three days of general assembly programs, scientific exhibits, and the technical exhibits which are being carefully selected at this time. Quite a number of appli cations have geen received already, for the showing of scientific exhibits in the large Red Lacquer Room at the Palmer House. It is definitely assured that the usual large technical exhibit requiring the utilization of all available space, will be lined up long before the meeting begins.

In arranging the speakers and subjects for the presentation of papers before the general assembly, special attention is being given to the desires of the general practitioners of Illinois, as this will be largely their own meeting. Likewise the technical and scientific exhibits will be of interest to this same group of physicians, as has been the case in recent years.

Those members of the Illinois State Medical Society desiring to present papers before the general assembly, should write to either the officers of the sections, or the executive committee. They should give the title of the proposed presentation, as well as a short abstract to give a better opportunity for the selection of the papers of greatest general interest.

The section officers are as follows:

Section on Medicine: Theodore R. Van Dellen, Chairman, 435 Michigan Avenue, Chicago; J. C. Redington, Secretary, Galesburg.

Section on Surgery: Harry A. Oberhelman, Chairman, 30 N. Michigan Avenue, Chicago; David B. Freeman, Secretary, Fifth Avenue Building, Moline.

Section on Eye, Ear, Nose and Throat: Paul H. Holinger, Chairman, 700 North Michigan Avenue, Chicago; Perry E. Duncan, Secretary, Springfield.

Section on Public Health and Hygiene: Robert Dessent, Chairman, 737 S. Wolcott Avenue, Chicago; Jerome J. Sievers, Secretary, State Department of Public Health, Springfield.

Section on Radiology: Cesare Gianturco, Chairman, 602 W. University Avenue, Urbana; John H. Gilmore, Secretary, 720 N. Michigan Avenue, Chicago.

Section on Pediatrics: Frederick H. Maurer, Chairman, Peoria; Eugene T. McEnery, Secretary, 4458 W. Madison Street, Chicago.

Section on Obstetrics and Gynecology: Harold Miller, Chairman, 30 N. Michigan Avenue, Chicago; W.C. Scrivner, Secretary, East St. Louis.

Section on Pathology: S. A. Levinson, Chairman, 915 E. Hyde Park Boulevard, Chicago; George Milles, Secretary, 411 W. Dickens Avenue, Chicago.

The Executive Committee consists of: Theodore Van Dellen, Chairman; Paul H. Holinger, Vice-chairman; Harold Miller, Secretary; John H. Gilmore, Assistant Secretary.

Members of the Illinois State Medical Society desiring to present a paper at the annual meeting in 1948, should write to the appropriate section officer, or direct to the Executive Committee as early as possible as it is the desire of these groups to get the program completed at the earliest possible moment.

It is the desire of everyone responsible for making final arrangements for the 1948 annual meeting to arrange a program which will appeal to the membership as a whole, and once more to have an outstanding meeting in Chicago on May 12-14, 1948.

ADMISSIONS TO ILLINOIS RESEARCH AND EDUCATIONAL HOSPITAL

In response to queries from members, the Secretary of the Illinois State Medical Society has contacted A. C. Ivy, M. D., vice-president of the University of Illinois, and M. C. Benford, M. D., director of admissions, regarding the university's policies governing admissions of patients to its Research and Educational Hospitals in Chicago. The information obtained is here summarized for the benefit of members throughout the state:

Two types of service are offered by the university's Research and Educational Hospitals — inpatient and outpatient. The hospitals reserve the right to assign patients to either, depending on individual need and available facilities.

The hospitals are operated and maintained by the University of Illinois for the advancement

of medical education and clinical investigation. The limited bed capacity per service therefore necessitates basing admission primarily on the teaching or investigation value of the case. At the same time it is required that family income must be inadequate to procure medical attention from private sources. All patients must be American citizens and must have been resident in Illinois for at least one year.

That plan of admission also limits the number of cases of any one particular type which may be accepted during a given period and prohibits consideration of patients with diseases of contageous or custodial nature. The period of hospitalization is necessarily limited; patients are therefore discharged at the discretion of the department to which they are assigned.

The university's statement of policy governing admission of patients provides that:

"Applications for admission of a patient should be addressed to the Medical Director and accompanied by a letter from the attending physician stating the name, age, sex of applicant, history of present complaints, clinical and laboratory findings, impression or diagnosis and family income. The referring physician should also state whether the patient's condition will permit use of the Outpatient Service, which normally requires several visits to the clinic before completion of diagnostic procedures and therapy. All admission requests are reviewed for medical interest by the service concerned and the applicant or referring physician will be informed whether or not the case may be admitted."

Patients should not be sent or brought for hospitalization until a definite appointment has been made, and referring physicians should state whether the patient's condition is such that the outpatient facilities may be utilized.

Although medical service is provided free, certain fees must be assumed by the patient. Patients in the outpatient department pay a 40-cent registration fee, pay for all medicines, x-rays, laboratory service, special appliances, and special therapy. Hospital patients pay for special medications and appliances and for transfusions where personal donors are not available. Those patients with hospitalization insurance

FORM USED IN APPLICATION FOR ADMISSION

University of Illinois
Research and Educational Hospitals

APPLICATION FOR ADMISSION

Name of Patient .....
Sex ..... Nationality ..... Age ..... Marital Status .....
Address ..... City .....
Birthplace ..... Date ..... Citizenship .....
How long has applicant lived in Illinois .....
Referred by .....
Reason for referral .....
Impression or Diagnosis .....
Medical Summary — Give present symptoms, duration of illness, clinical laboratory and x-ray findings (x-ray films to be mailed, if available) and statement whether patient is ambulatory and able to report for clinic examination and care. Must be filled out by the physician. .....
.....
.....
.....
.....
(Use reverse side if necessary)
Physician's
Signature .....

INCOME

Head of family ..... Income .....
Occupation ..... Employed by .....
Other income ..... Insurance ..... Savings .....

EXPENSE

Number of dependents ..... Children ..... Ages .....
Rent ..... Other fixed expense .....
(This blank **must** be completed in full) April 28, 1947

are asked to present their policy and furnish a waiver of the benefits available.

Dr. Ivy, vice-president in charge of the Chicago professional colleges of the University, pointed out that "due to the limited beds available, we can accept only ten per cent of the patients referred to us, all except a few from the Dispensary being referred by a physician."

"Since it is necessary to present to the students patients with a variety of disease, this, in view of the limited bed capacity, restricts the type of patients we can accept and, also, materially hampers clinical investigation," Dr. Ivy wrote.

"It was to relieve these deficiencies that, at the last session of the Legislature, we asked for an appropriation for a Hospital for Chronic Illness and Geriatrics, with a capacity of 200 beds plus research facilities. With such a hospital is would be possible to teach in an emphatic way those chronic diseases which the physician most commonly sees in practice and to investigate effectively such diseases as nephritis, hypertension, allergy, rheumatic fever, cirrhosis of the liver etc.

"At present, we cannot conduct such investigation, as they can in a few hospitals in the East and at the Mayo Foundation, because, for example, we have no place to put 15 or 20 hypertensives and 15 or 20 nephritics for careful and intensive study."

Dr. Ivy noted that, since the medical school is supported by the state, the university is planning and attempting to extend "downstate" any services rendered the medical profession.

"We try not only to keep the students accepted for admission equally divided between Cook County and 'downstate,' but also to do the same for the patients in the hospital."

Dr. Ivy also supplied the summary of the number of beds in service by wards and the sample application blank for admission.

BEDS IN SERVICE BY WARDS

2 East		40
Pediatrics	28	
Surgery	4	
Oral Surgery	3	
Neurosurgery	2	
Ophthalmology	2	
Otolaryngology	1	
2 West		30
Obstetrics	30	
(Nursery — 24 Bassinets & Incubators)		
(Not included in bed count)		
3 West		17
Gynecology	17	
3 Center		20
Medicine	20	
3 South		40
Dermatology	7	
Medicine	33	
3 East (Medicine)		14
Navy Convalescent	10	
Army Nutrition	4	
4 East		35
Surgery	35	
4 West		38
Urology	10	
Ophthalmology	6	
Otolaryngology	12	
Orthopaedics	10	
Orthopaedics Building		110
1st floor	29	
2nd floor	30	
3rd floor	35	
4th floor	16	
Total General Hospit		344
Illinois Neuropsychiatric Institut		84
Neurological Surgery	42	
Psychiatry	32	
Child Psychiatry	10	
Total, INI		84
TOTAL, INCLUDING INI		428

DR. ISAAC ABT AND HIS CONTRIBUTION TO PEDIATRICS

A. LEVINSON, M.D.
CHICAGO

Many and varied are the contributions made to pediatrics by Dr. Isaac Abt. As practitioner, clinician, teacher, writer, editor, he has left his impress on every phase of pediatric progress for more than half a century. Throughout his long and fruitful career, Dr. Abt has looked upon pediatrics as more than a profession. To him it has been a principal to uphold, an ideal to live by.

Dr. Abt's written contributions to the field of pediatrics, cover a large variety of subjects embracing every phase of child health. One of his first articles, published in 1901, was on floating kidneys in children. This was followed by a paper on typhoid fever in children, published in 1902. Other articles followed in close succession: Rachitic Erosions of Permanent Teeth, 1908; Cathartics in Infants, 1909; Traumatic

Read before the Chicago Pediatric Society, December 16, 1947, on the occasion of Dr. Abt's 80th birthday.

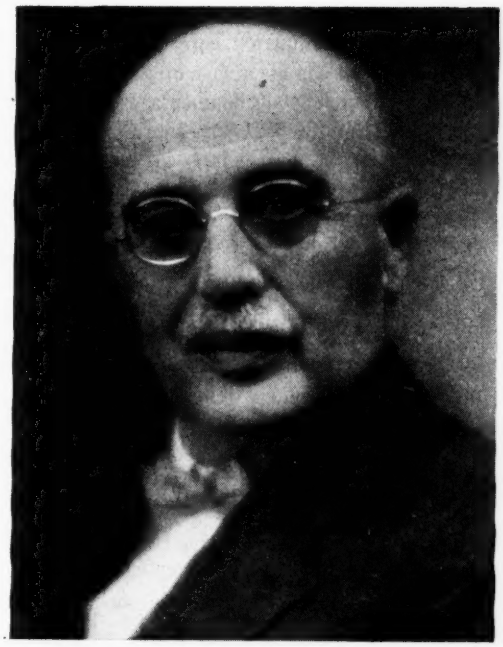
Diabetes Mellitus, 1911; Chorea, 1916; Familial Icterus, 1916; Skin Defects, 1917; Meckle's Diverticulum as a Cause of Intestinal Hemorrhage, 1926; Significance of Lymphocytosis in Infants and Children, 1928; Relationship between Speech and Intelligence, 1929; and many more too numerous to mention in a short paper.

Of particular interest are Dr. Abt's articles on the nutritional disorders of childhood: History and Classification of Gastro-Intestinal Diseases, 1912; Starch Injuries, 1913; Acid Intoxication, 1914; and Nutritional Disturbances of Infancy, 1924.

Dr. Abt's illuminating contributions to national and international encyclopedias of pediatrics, have spread his name and fame, far beyond the confines of state and country. His excellent articles on Tuberculosis and on Typhoid Fever (1906) were published in the *Practice of Pediatrics,* edited by Walter Carr. His chapter on Rachitis, written in 1913, appeared in Forcheimer's *Therapeutics of Internal Diseases.* In 1919. he contributed a section on "Milk in its Relation to Infant Feeding" to Heinemann's book on *Milk.* (I am proud to add that I had the privilege of collaborating with him on this chapter.) In 1930, he wrote a treatise on the Morbidity and Mortality of Tuberculosis in the United States, for Engle and Pirquet's *Handbuch der Kindertuberkulose.*

Dr. Abt. not only wrote for others. He also edited his own books of encleopedic information. As the editor of the Pediatric Yearbook from 1906 to the present day, he has rendered an invaluable service to thousands of pediatricians throughout the county. As his collaborator from 1916 to 1921, I know how much time and energy he devoted to the editing of these volumes and to the writing of his editorial notes. The yearbook, which contained brief and lucid reviews of the most important advances in pediatrics, served as a boon not only to the pediatrician but to the general practitioner who sought the latest word in the care and treatment of children.

The crowning glory of Dr. Abt's success as an editor, is his "Pediatrics", which appeared in eight volumes, from 1923 to 1926. In this *System,* Dr. Abt brought together the finest and best in pediatrics here and abroad, in a word, everything new and fundamental in pediatrics. From the first chapter which presents the history of pediatrics written by the master historian, Garrison, to the last on Animal Parasites by Ward, the *"System"* is filled with the most authoritative information obtainable. Although many changes and improvements have made their way into the field of pediatrics since the *System* was published, it will always remain a source book of pediatric knowledge.



Isaac Abt, M.D.

Dr. Abt's talent as a writer is shown in his own book as well as in his articles and chapters in the books of others. Among his books should be mentioned his fine translation of Hecker and Trump's Atlas on Disease of Children, one of the most beautiful atlases in medicine. A popular and helpful guide in its day, was *The Baby's Food,* which appeared in 1917. Dr. Abt's most recent *magnum opus, The Baby Doctor,* published in 1944, is a fascinating memoir of a half century of pediatric progress. This book, although written for the laity, can be read with pleasure and profit by every physician.

Of particular significance is Dr. Abt's special contribution to the history and development of pediatrics in Chicago. As one who stood at the cradle of pediatrics in this country and at the helm of pediatrics in this city, none was

more fitted than he to write the story of the rise and growth of pediatrics here and elsewhere. Interesting indeed is his article on Hufeland, the German pediatrician. Fundamental is his chapter on the history of pediatrics in Brennemann's Clinical Pediatrics. Particularly informative and convincing is the portion of the article dealing with the history of contemporary pediatrics.

No one could write the history of pediatrics with greater authority than could Dr. Abt, for he knew practically every pediatrician in his time. He was acquainted with their work; he knew many of them personally. We hope that some day he will enlarge upon his fine chapter on medical history and make a comprehensive book of it. At that time, too, we trust that someone will make good the omission of which Dr. Abt, in his innate modesty, was guilty — the inclusion of Dr. Abt's tremendous personal contribution to the history of pediatrics.

Dr. Abt has always been one of the foremost exponents of modern pediatrics. He was the first to introduce to this country the Czerny-Finkelstein philosophy of nutritional disorders — that diarrhea in infants was caused by metabolic disturbances rather than by anatomic changes in the gastrointestinal tract. He was also the first American pediatrician to use protein milk in the treatment of diarrhea in infants. To Dr. Abt also goes the credit for the introduction of the Heubner caloric system of infant feeding.

When all gastrointestinal disturbances were considered anatomic and not metabolic in origin and when the "Boston Gospel", to quote Jacobi, prescribed the percentage method as the only form of infant feeding, Dr. Abt was courageous enough to introduce a revolutionary thought in nutritional disorders and in infant feeding.

When Dr. Abt began pediatric practice years ago, there were very few pediatricians in this country. In the East, there was Abraham Jacobi, the "Father" of American pediatrics, Job Lewis Smith, one of the famous Smith brothers, and Emmet Holt who was just beginning to gain recognition. In the West, there were several doctors who taught pediatrics at the various universities: Marcus Hatfield at Northwestern University Medical School, Walter Christopher at the College of Physicians and Surgeons, and Alfred Cotton at Rush Medical College. None of these men, however, limited his work entirely to pediatrics. It was Dr. Abt alone who devoted all his time from the outset to the study and care of children. He prepared himself thoroughly for the practice of his specialty by studying under the great masters in European pediatrics — Widerhofer, Monte, Escherich and Kassovitz. On his return to the United States, he devoted a great deal of his time to dispensary and hospital practice.

Dr. Abt's name is actively linked with many of the hospitals in this city. He was the first attending physician in pediatrics at the Cook County Hospital and at the Michael Reese Hospital. He served on the pediatric staffs of St. Luke's and the Children's Memorial Hospital.

It was Dr. Abt who conceived and planned the Sarah Morris Hospital and who was the guiding spirit of the institution for many years. Every improvement of which the hospital boasts was due to his relentless vigilance. He fought for every inch of ground; for isolation of infectious cases, for milk for the babies, for better nursing care.

One can multiply tenfold the instances of contributions made by Dr. Abt that were recorded not in words but in deeds. Among the many, one must mention his efforts toward elevating the practice of pediatrics into a specialized art, a model for younger men to follow and his great influence as a teacher and colleague.

As a teacher, Dr. Abt had no peer. He trained and inspired those he taught. His lectures, which were always well prepared, were an event in the lives of his students. His simple manner, his lucid illustrations, his ready wit, made listening to him a liberal education and a great pleasure. His words of wisdom were eagerly devoured not only in the class room and in the lecture hall but at ward rounds, at postgraduate courses, at out-of-town discussion groups and at medical conventions. He always had something worth while to say and said it briefly and forcibly. The many honors bestowed upon him by American and foreign societies were a tangible indication of the respect and admiration he evoked in medical groups everywhere.

There is so much to say about Dr. Isaac Abt as a physician to children, as a writer of books about children, as a scholar and editor, as a teacher and lecturer, and above all, as a great

humanitarian, but unfortunately, I have been limited to the subject of Dr. Abt's contribution to pediatrics.

And now in closing, may I add my personal tribute to the honored guest of this evening:

Those of us who have had the privilege of knowing Dr. Abt for the past generation, feel grateful indeed to have had the benefit of his advise and council, the inspiration of his teaching and guidance.

To the world, Dr. Abt will be known as the leader of Pediatricians. To us, his students and co-workers, he is that and more — he is the great teacher, the respected colleague, the beloved friend. We are happy to pay homage to the youthful spirit of one who has reached the venerable age of three score and ten and ten again. We wish him many more years of fruitful activity, many more years of health and happiness.

DEATH OF WELLINGTON PORTER SHAHAN

Wellington Porter Shahan, Executive Secretary of the Illinois Tuberculosis Association, died on November 21, 1947. He was stricken with pneumococcic meningitis while attending meetings of the Executive Committee and Board of Directors of the Association in Peoria, November 17.

Born June 1, 1904, in Milton, N. Y., Mr. Shahan entered tuberculosis control work upon his graduation from Brown University. After completing Junior Staff training with the national Tuberculosis Association, he was Director of Field Service for the Indiana Tuberculosis Association. He came to Illinois as Executive Secretary in February, 1930.

Mr. Shahan served as president of the National Conference of Tuberculosis Secretaries, the Mississippi Valley Conference on Tuberculosis and the Illinois Public Health Association. He had also served as secretary of the NCTS and was advisory consultant to the Division of Tuberculosis Control, United States Public Health Service.

During the war, Mr. Shahan voluntarily served as Executive Secretary of the Downstate Section, Tuberculosis Division of the Selective Service Board. He received the Selective Service Medal for his work in connection with this Board.

Mr. Shahan is survived by his wife, George Ambrose Shahan; two daughters, Alexine and Elizabeth; and his mother, Mrs. Mary Shahan, Saugerities, N. Y.; a brother, George, Seattle, Washington, and a sister, Mrs. Eunice Scott, Remsen, N. Y.

The body was taken to Saugerties, N. Y. where the funeral and burial were held.

Pending the appointment of a successor to Mr. Shahan the Association office will continue to function as efficiently as possible.

Medical Economics

The Medical Economics Committee — Chauncey C. Maher, Chmn., 6 North Michigan Avenue, Chicago, Edwin S. Hamilton, V. Thomas Austin, Emmet B. Bay, Jay McDonald Milligan, George Halperin, Marie Wessels, Thomas C. Browning, Roland R. Cross, Milton E. Bitter, Edwin F. Hirsch, Ford Hick.

TRENDS IN LABORATORY SERVICE IN HOSPITAL PRACTICE

Clinical pathology and pathologic anatomy have grown in hospital practice in measures far beyond anything thought probable twenty-five years ago. In fact, before World War I, only the large hospitals had given thought to clinical laboratory facilities as an organized unit, and few indeed were the laboratories of such hospitals that had even the part-time services of a pathologist. Many of the part-time pathologists were engaged in developing their private practice — the larger interest — and serving the laboratory was a more-or-less temporary medium of subsistence.

The clinical laboratory examinations at that time were limited mainly to blood counts, hemoglobin estimations, differential counts, urine analysis, stool examinations for blood and parasites, some form of the Wassermann test of serums and spinal fluids, and a limited amount of bacteriology. Methods for chemical analysis of the blood were unknown or just beginning to be developed. Estimates of the urea content of the blood were the first. The colorimetric methods for blood analysis devised by Folin shortly thereafter (1919) opened the way for routine chemical analysis of the sugar and nonprotein nitrogen substances of the blood, in addition to the urea content. Refinements of these methods and additions have brought the methods of blood analysis to the present level.

The practice of pathologic anatomy, including the examination of a modicum of surgical tissues, was restricted to the pathology departments of the medical schools and an autopsy outside of these circles was done by the doctor himself. These conditions have changed and with the practice of medicine moving into higher levels and being extended more widely into communities, clinicians more and more depend upon the results of laboratory procedures in the diagnosis and the guidance of treatment of their patients. The present generations of surgeons is becoming so imbued with the need of routine tissue and biopsy examinations by trained pathologist that the omission or restriction of such a service arouses a strong protest. Hospitals, especially those with teaching programs are now reporting high percentages of autopsies on deceased patients.

The patient load of hospitals which today is at its peak in all communities is reflected in the demand for examinations by the laboratory. Observations over many years in graph curves of the rising volume of laboratory examinations in a large hospital have raised the question when a saturation level would be reached and when the curve, rising year by year, more abruptly in some than others, would level off and become more or less flat. There is no indication of such a trend and every new procedure or examination simply increases the total volume.

The means of meeting these trends in hospital practice include physical organization, personnel, equipment, and the integration of the laboratory into the total machinery of the hospital. If the pathologist can have some part in planning the floor space of the laboratory or is given ample opportunity to express himself in the revision of constructed space into laboratory purposes, he would do so well to think in larger terms

than his first ideas indicate. This remark is conditioned for the reason that usually the architect of the hospital speaks, so to say, for all, and his thinking under pressure from other groups contracts the allotted laboratory space and may even place it somewhere inaccessible or at a disadvantage from the standpoint of efficient operation in the institution. Instead of being thought of in terms of first importance in a hospital, the laboratory is rated at a level below bed space, administration, etc. This form of planning in hospital construction either belittles the thinking quality of the attending staff and holds it to a level where skimpy laboratory service is considered sufficient, or it sets a low level of expected medical practice in such a hospital and with dogmatic finality implies that this is the form of diagnosis, treatment and care which patients of that institution should have.

To cover the large demands for laboratory services the work should be distributed into various departments such as hematology, urinalysis including stomach analysis, bacteriology, serology, blood chemistry, tissue sectioning, parasitology, blood bank, etc. Where control is possible, the physical arrangements of these departments should be segregated into separate small rooms rather than collected in a large room with multiple activities and attendant confusion. Hematology with its special equipment is obviously different from the other departments and each of the other departments has specific requirements as regards physical arrangement and equipment. The size and organization of the personnel in these departments is determined by the volume of work. Where personnel requirements permit, each department is in charge of a technician with special training and ability to assume full responsibility with guidance. The further personnel requirements are determined by the work volume. Such a plan of organization covers the work requirements and provides a teaching framework for training other technicians under close supervision. The integration of the laboratory functions into those of the hospital and specifically to the medical care of the individual patient may be complex, especially when a large number of diagnostic procedures are requested during a minimal stay of the patient in the hospital. These are usually specific problems and their solution depends upon an analysis of the conflicting elements, and they frequently can be adjusted.

Within recent years the photometric estimation of color concentration has changed the methods and increased the accuracy of many of the procedures now used in chemical examinations of the blood. Hemoglobin concentrations were among the first to be determined by this method, but analysis of other blood constituents have followed. Many of the instruments use filters at characteristic wave lengths, others are made with prisms and calibrated for the entire range of colors in the spectrum. The preparation of graphs and charts for analysis by these instruments has disclosed instabilities in the color developed which made necessary further studies into temperature and light conditions, reagents, time elapsing between the mixing of the reagents and the reading of the color value. The system of photometric analysis has naturally eliminated the use of the ordinary colorimeter and new methods with this instrument have shortened considerably some of the old standard methods, notably the urease method for ureadetermination and the plasma proteins of the blood. Other analysis as with hepatic disease, which were not possible with the ordinary colorimeter, are now made by photometric analysis. It seems that probably many more examinations in the field of blood chemistry will be devised for the photometer.

The use of whole blood and blood plasma in simple therapy, emergencies as with shock and hemorrhage, and to support a patient during a long surgical operation has become so common a practice that all large hospitals have made provisions for meeting this need. The laboratory is usually called upon to organize and develop these facilities and many problems are connected therewith. The sterile precautions necessary in collection and preservation of the blood and plasma, the care in compatibility and other serologic tests, the processing of the equipment needed to give the transfusion, and all of the details of procedure necessary to deliver safe blood to the proper recipient become accordingly the responsibilities of the laboratory.

The laboratory engages in many activities that are not strictly in the performance of clinical tests. They may be considered in the general theme of teaching. This may be in pro-

viding instruction for technicians or for physicians who need a period of training in morgue and surgical pathology for their specialty, and for others who wish to specialize in clinical pathology and pathologic anatomy. These are functions that can be developed only at the higher levels of laboratory organization and with sufficient material for training purposes. Dealing more specifically with the professional group means adequate surgical and autopsy tissues. The routine gross and microscopic examination of the surgical tissues can be organized in conference groups with young physicians, under close supervision by the pathologist. The same applies to the postmortem examinations where under close supervision the trainees are given the routine procedures for a complete necropsy, the preparation of the record, anatomic diagnosis and clinical brief, and subsequently a record of the histologic study of the sections.

Integrated into these activities are those concerned with presenting autopsy material in clinical pathological conferences for the resident and attending staff of the hospital. Recognizing the full value of the fundamental principles of visual education in large group discussions, the presentation of material in the clinical-pathological conferences can be accomplished by projections on a large screen. This is done with three projectors, an opaque object projector, a lantern slide projector and a micro-projector for histological preparations. The clinical brief is flashed on the screen and at the same time it is read to the group by a resident. This is followed by supplemental comments and corrections by the resident and attending physician. The pathologist then gives the essentials of the anatomic diagnosis, also projected on the screen, and reviews on the screen the tissues of the autopsy, giving at the same time a running account of the conditions disclosed by the necropsy. This review is supplemented by kodachrome slides of the essential tissues and a projection of the histology. A summarizing statement by the pathologist closes his remarks and a general discussion by the attendant members of the staff and visitors follows. The tissue details and color brilliance of the kodachrome slides arouse much interest and enthusiasm in these conferences. The 3¾ by 4 professional type B cut film is advantageous because it can be displayed in viewing boxes without magnification and filed in systems in photographic museum collections. The tissues to be photographed are blocked out during the postmortem examinations or prepared, if in surgical material, fixed to retain natural color and then photographed with a special illuminated box. These activities indicate that a well developed photographic department is an integral factor in such teaching activities for preparing the kodachrome slides, making negatives for black and white prints, and for photomicrography. A photographic museum may be developed in this way with prints and lantern slide material catalogued for the use of the entire staff. Activities such as these increase the value of the laboratory to the hospital and develop a sense of helpful co-operation and good will among the resident and attending staff.

These are some of the trends in the laboratory service in hospital practice. Research activities, of course, are part of such an organization, whether it be large or small. This spirit of investigation develops a curiosity to know more, it spreads like a leaven into the routine and gives zest to the general morale of the laboratory personnel. The laboratory is constantly in a flux, never static, and continually working to improve itself and the practice of medicine.

E. F. H.

State Department of Public Health

PROGRAM FOR PREMATURE BABIES

In recent years it has become apparent that efforts to further decrease infant mortality effectively must be concentrated in the neonatal period. The great advances which have been made in reducing deaths among older infants, especially through sanitation measures and communicable disease control, have had comparatively little effect on deaths in the first month of life. Thus, in the 25 years from 1915 to 1940, deaths among infants one to twelve months of age in the registration area of the United States were reduced from *55.5* to *18.9* per 1,000 live births, a decrease of *66 per cent,* while deaths under one month were reduced only from *44.4* to *28.8* per 1,000 live births, a decrease of *35 per cent.* Neonatal deaths now constitute approximately two-thirds of all the deaths in the first year of life.

Examination of the causes of neonatal deaths shows that the largest single cause is premature birth. Almost one-half of the deaths in the first month of life are due to this cause. Indeed, a fact not often emphasized is that prematurity stands out also as the largest single cause of death throughout the whole infant period; in this country in 1944, 30 per cent of the total deaths occurring under one year of age were due to this cause. Using the generally accepted figure of five per cent of live births as the incidence of premature births, it becomes apparent that this group of five per cent of our infants contribute 30 per cent of the infant deaths. The large majority of these deaths occur of course in the neonatal period. The reasons for the generally high mortality rate in this group are well known to all of you. The fact remains that here is a group, important not only as statistics, but as individuals, about whom we are greatly concerned.

Important studies have been carried on and must be continued regarding the causes and prevention of premature births. Until the time when positive results are obtained from these studies, an immediate and practical attack on the problem would seem to be that of saving the lives of those infants who are born prematurely.

For several years it has been recognized that special care for these infants will save a certain number who would otherwise die. Individual hospitals have set up special facilities for the care of their own prematurely-born infants. In a few cities, notably Chicago, action has been taken by the city health department for provision of special care in certain designated hospitals.

We in Illinois have been interested for a number of years in methods of providing similar special care for infants in areas outside metropolitan Chicago. Some years ago we supplied local health officers and county nurses with simple heated beds so that infants cared for in hospitals or at home could have the benefit of at least one recognized essential — constant warmth. However, it was recognized that this effort could not begin to solve the problem.

In 1942, plans were made in our Division of Maternal and Child Health for the establishment of Premature Centers in two downstate Illinois hospitals. These Centers were to provide completely modern, specialized care for pre-

mature infants, whether born in the Center hospitals or referred from other hospitals or homes. The special facilities included a separate nursery, modern incubators and other special equipment, nursing care given by nurses who had post-graduate training in the care of premature infants, and medical supervision provided by qualified pediatricians. The first patients were admitted to the two Centers in 1943, and the program has grown steadily since that time under the fine leadership of Dr. Henrietta Herbolsheimer, who until recently was the Chief of our M. C. H. Division. Rigid standards of care in the Centers have been established and maintained, policies and procedures have been worked out, and on this sound basis it has been possible to provide the best of care to progressively increasing numbers of infants each year.

Through grants of funds from the Children's Bureau we have been able to pay the Centers for the hospitalization of infants who would otherwise be denied this special care because of inability of the family to pay. Similar financial arrangements have enabled the Department to pay, where necessary, for the ambulance transportation of infants from outlying areas of the State to the Centers. Funds have also been made available for providing special training for nurses serving in these Centers.

Integration of the phase of hospital care with later home care has been accomplished through the fine cooperation of local health departments and public health nurses. These nurses visit the homes to help prepare for the return of the infants from the Center, and give as much assistance with the later home care as is necessary in each case. Thus the benefits of early specialized care are not lost, since the infant does not return to a home situation that will be detrimental to his health.

In the 4½ years of operation, 1800 infants have been cared for in these Centers, with good results. This figure does not begin to approach the number of infants in downstate Illinois who have been born prematurely in this period of time, but we feel it is a good start toward our goal of seeing that facilities are available for every infant who needs this care. The two Centers operating at present have expanded their quarters, but cannot at all times meet the demands for service. Expansion of the program through the establishment of additional Centers located in other parts of the State is planned for the immediate future and should bring us gradually closer to our goal.

Through the hospital construction program we shall have an additional means of getting properly-equipped hospital facilities into the local communities. Continuation and expansion of the training program for professional personnel who provide the care for the infants will help to complete the picture.

On the basis of results obtained so far in this program in Illinois, we confidently expect that we will see a significant decrease in the neonatal deaths due to prematurity.

ROCHE-ORGANON AWARDS IN ENDOCRINOLOGY

Three awards of $500.00 each have been sponsored by Roche-Organon Inc., hormone research manufacturers, for scientists in recognition of their recent, outstanding research in these fields of endocrinology, animal experimentation, hormone chemistry, and clinical endocrinology. The winners of the 1947 awards are: Dr. Fuller Albright (clinical endocrinology), Dr. Robert D. H. Heard (hormone chemistry), and Dr. Dwight J. Ingle (animal experimentation).

The winners of the Roche-Organon awards were selected by the Committee on Awards of the Laurentian Hormone Conference which consists of Dr. Roy G. Hoskins, Chairman, and Drs. Edwin B. Astwood, Thomas F. Gallagher, Allan T. Kenyon, Robert L. Noble, and Abraham White. The awards were presented at the 1947 Laurentian Hormone Conference held recently at Ste. Adele, Quebec, Canada.

Correspondence

ACTIVITIES OF THE WOMAN'S AUXILIARY

The fall board meeting of the Woman's Auxiliary to the Illinois State Medical Society was held at the Congress Hotel in Chicago, on November 13th, 1947, with thirty-eight state officers, chairmen, county presidents and county presidents-elect in attendance.

Dr. Darwin B. Pond, chairman of the advisory committee, was the guest speaker. His talk was most inspiring and encouraging to all present, making each of us feel that our efforts in auxiliary work have been fruitful. He praised the auxiliary for its contribution to public relations and health education and also for the interest shown in supporting the benevolence fund.

Since organization and increased membership is being stressed this year throughout the various states, the organization chairman has written to all auxiliary councilors requesting them to write all the presidents and secretaries of the medical societies, in unorganized counties in their districts, seeking their cooperation and permission to organize auxiliaries in these counties, or assist in securing members at large.

As ours is a challenging task, it is our responsibility, as physicians' wives, to enlighten citizens of our communities on what, we as a group of medical people believe and encourage, always bearing in mind that we are an auxiliary to the medical profession.

The wife of the physician in a small city or town needs encouragment, as she is practically an individual auxiliary in her own right. It would be impossible for her to set up a health program alone, but let her be the spark to start such a program and with her advice and assistance, many citizens will be reached and enlightened on health subjects.

All county auxiliaries have excellent programs outlined for the year, on subjects pertaining to health, medical legislation, child welfare, cancer, tuberculosis and many other health measures to be given by outstanding speakers of the medical profession. The public will be invited to attend these programs so that, they may become better informed in matters of health education.

Many auxiliary members hold office or chairmanships in Federated Women's Clubs, P. T. A. groups and Health groups. One councilor has organized a lay medical program for a branch of the American Association of University Women.

All county auxiliaries are working towards a goal in contributions for the benevolence fund. Since the institution of this project, the auxiliary has contributed nine thousand five hundred sixty-seven dollars and forty-seven cents ($9,567.47), a record for which it is extremely proud, and by the close of the year they are expecting to add another substantial amount.

Subscriptions to the magazine, Hygeia, are being placed in schools, public reading places, physicians' and dentists' reception rooms, by auxiliaries. They are also encouraging their friends and neighbors to listen to radio broadcasts being sponsored by the American Medical Association.

The convention chairman, Mrs. Paul Bucy, reported that plans are well under way for the annual convention to be held in Chicago, at the

Congress Hotel, on May 10th and 11th 1948. All physicians' wives are invited and urged to attend the business session and social functions of the convention. Will you wives, who are not members of the auxiliary, please accept this invitation, and assist in making the attendance of the 1948 convention one of the largest in the history of the organization? The auxiliary extends to every physician's wife a hearty welcome to meet with us on this occasion. May we depend upon you?

Mrs. John Soukup,
State President.

BULLETIN OF THE WOMAN'S AUXILIARY TO THE AMERICAN MEDICAL ASSOCIATION

To the Woman's Auxiliary:

Another year is well under way to further the aims and objectives of the Auxiliary and no doubt all of us believe we are doing our best. How*ever, there is seldom a time when a job cannot* be done just a little better with more information, advice and example.

In our work the foregoing assistance is largely to be found in the pages of the *Bulletin* of the *Woman's Auxiliary to the American Medical* Association.

By this time every officer and member of the Auxiliary should be familiar with and a subscriber to our only organ of national and proper information upon which our continued success is dependent.

Your county Bulletin chairman has all the data and will be happy to receive your sub*scription for this valuable* publication.

Mrs. R. E. Johnson,
State *Bulletin* Chairman.

HYGEIA

Hygeia is one of the best means the auxiliary has of getting authentic health information into *the hands of the public. A real contribution is* made when *Hygeia* is placed in as many locali*ties as possible where lay people will have access* to it. There was a substantial increase in the number of subscriptions turned in during the past year from all the states. It is the desire of your chairman, that Illinois be the leading state in this work for the coming year. As true value of *Hygeia* becomes more apparent, all county auxiliaries will wish to participate in this most worthy activity.

Let us strive to have every auxiliary member a *Hygeia* subscriber. *Hygeia* should be on the reception room table in the office of every physician and dentist, in our schools and public reading places. Use *Hygeia* in conjunction with public relations and health programs.

With the assistance of each member this goal will be reached.

Mrs. Victor E. Engelmann
State Hygeia Chairman.

BASIC SCIENCE REFRESHER COURSE

Application of the Basic Sciences to Clinical Medicine. This course will consist of lectures *which will cover the phases of chemistry, physi*ology, bacteriology, pathology, and pharmacology which are directly applied in the practice of internal medicine as well as clinical medicine. Daily ward rounds in small groups will offer *practical demonstrations with patients and em*phasize probems in physical diagnosis. Clinical *conferences with the pharmacologist, bacteriologist,* and pathologist will further aid in the correlation. Fee, $100.00. January 5 to 31, 1948.

Requests for furthur information should be addressed to: Howard H. Cummings, M. D., Postgraduate Medicine, University of Michigan, Ann Arbor, Michigan.

TICE LIBRARY

At their reunion meeting the Cook County Hospital Internes' Alumni Association announced plans for the establishment of a new medical library to be located in the Cook County Hospital. The library is to be founded in the name of Dr. Frederick Tice, who has been associated with the hospital for over 50 years. Alumni have *contributed over $25,000 of the $75,000 esti*mated cost, and it is hoped that the balance of *this fund will be contributed by other alumni,* friends and persons interested in this project. The Association hopes to make available to mem-

bers of the resident and the interne staffs, as well as the attending staff, the texts, monographs and journals necessary for reference in clinical and experimental investigation. The library will be adjacent to the record library of the hospital so that case histories may be studied and the results made available thru publications.

The program of the Association included medical and surgical clinics at which former alumni including Drs. James B. Herrick 1888, Frederick Tice 1894, Dallas B. Phemister, 1904, Vernon C. David, 1907, and Egon Fishman, 1907, all of Chicago, participated. Dr. Nelson W. Barker, 1924, of the Mayo Clinic, spoke at the Cook County Graduate School. Officers elected, all Chicagoans, were Drs. Manuel E. Lichtenstein, President; Edmund F. Foley, Vice President; William J. Baker, Secretary and Treasurer, and Chester Guy, former President, was made a member of the Board of Trustees.

A new *Alumni Directory has been published.* Copies may be obtained by writing to the Secretary, Dr. William J. Baker, 7 W. Madison St., Chicago.

IOWA AND LLINOIS CENTRAL *DISTRICT MEDICAL ASSOCIATION*

The quarterly meeting of the Iowa and Illinois Central District Medical Association was held Wednesday November 19 at the LeClaire Hotel in Moline, Illinois.

Dr. B. K. Ozanne an anesthesiologist of Moline spoke on "Use of Curare in Anesthesia". At 8:30 P. M. Dr. A. Walter Wise of Rock Island introduced the guest speaker Dr. Henry T. Ricketts of Chicago who spoke on "Newer Aspects of Diabetic Management".

The next quarterly meeting will be held March 24, 1948 in the Fort Armstrong Hotel in Rock Island, Illinois. The guest speaker will be Dr. Maurice Grier of Omaha, Nebraska who will speak on "Prolongued Labor".

MISSISSIPPI VALLEY MEDICAL *SOCIETY 1948* ESSAY CONTEST

The Eighth Annual Essay Contest of the Mississippi Valley Medical Society will be held in 1948. The Society will offer a cash prize of $100.00, a gold medal, and a certificate of award for the best unpublished essay on any subject of general medical interest (including medical economics and education) and practical value to the general practitioner of medicine. Certificates of merit may also be granted to the physicians whose essays are rated second and third best. Contestants must be members of the American Medical Association who are residents of the United States. The winner will be invited to present his contribution before the Thirteenth Annual Meeting of the Mississippi Valley Medical Society to be held in Springfield, Ill., Sept. 29, 30, Oct. 1, 1948, the Society reserving the exclusive right to first publish the essay in its official publication — the Mississippi Valley Medical Journal. All contributions shall be typewritten in English in manuscript form, submitted in five copies, not to exceed 5,000 words, and must be received not later than May 1, 1948.

Further details may be secured from
Harold Swanberg, M. D., Secretary,
209-224 W. C. U. Building, Quincy, Illinois.

THE MIDWESTERN SECTION OF THE AMERICAN *CONGRESS OF* PHYSICAL MEDICINE

Will hold its annual sectional meeting and seminar February 26-27, 1948, at the Veterans Administration Hospital, Hines, Ill. Registration at 10:00 A. M. Thursray, Feb. 26. A seminar on spinal cord injuries will follow at 11:00 A. M. The program includes conducted tours of the physical medicine rehabilitation activities at the hospital. All sessions will be open to physicians, other professional personnel and their guests. For information concerning the meeting, address the Chairman, Dr. L. B. Newman, Chief, Physical Medicine Rehabilitation Service, V. A. H., Hines, Ill., or the Secretary, Dr. C. O. Molander, Director, Dept. of Physical Medicine, Michael Reese Hospital, Chicago 16, Ill.

THE PROGRAM

THURSDAY, FEBRUARY 26, 1948

10:00-10:30 Registration. Vaughan Unit Theatre.

10:30-10:45 *Address of Welcome.* K. A. Carroll, M.D., Manager, Veterans Administration Hospital, Hines, Illinois.

10:45-11:00 Orientation: Louis B. Newman, M.D., Chief, Physical Medicine Rehabilitation Service, Veterans Administration Hospital, Hines, Illinois.

SEMINAR ON SPINAL CORD INJURIES

11:00-11:30 Neurosurgical Aspect. Loyal Davis, M.D., Professor of Surgery, Northwestern University Medical School.

11:30-12:00 Neurological Aspect. Lewis J. Pollock, M.D., Professor of Nervous and Mental Diseases, Northwestern University Medical School.

12:00-12:30 Genito-Urinary Problems. Knowlton E. Barber, M.D., Assistant Professor of Urology, Northwestern University Medical School.

2:00- 2:30 Medical Management. H. Ivan Sippy, M.D., Assistant Professor of Medicine, Northwestern University Medical School.

2:30- 3:00 Orthopedic Problems. Leo F. Miller, M.D., Associate Bone and Joint Surgery, Northwestern University Medical School.

3:00- 3:30 Plastic Surgery. Joseph G. Kostrubala, M.D., Consultant, Plastic Surgery, Northwestern University Medical School.

3:30- 4:30 Physical Medicine Rehabilitation; Demonstration of Patients. Louis B. Newman, M.D., Chief, Physical Medicine Rehabilitation Service and Staff.

4:30- 5:00 Moving Pictures.

12:30- 2:00 Luncheon: Moving Pictures.

FRIDAY, FEBRUARY 27, 1948

10:00-12:30 Conducted Tours of the Physical Medicine Rehabilitation Activities at the Veterans Administration Hospital, Hines, Illinois.

12:30- 2:00 Luncheon: Moving Pictures.

2:00- 2:30 Physical Medicine in peripheral Vascular Lesions. Geza De Takats, M.D., Associate Professor of Surgery, University of Illinois, College of Medicine.

2:30- 3:00 Physical Medicine in Peripheral Nerve Injuries. Speaker to be announced.

3:00- 3:30 Physical Medicine in Fractures. Harold A. Sofield, M. D., Associate Professor, Bone and Joint Surgery, Northwestern University Medical School.

3:30- 4:00 Physical Medicine in Amputations. Fred W. Hark, M. D., Associate Professor of Orthopedics, University of Illinois, College of Medicine.

4:00- 4:30 Physical Medicine in Arthritis. Evan M. Barton, M.D., Assistant Professor of Medicine, University of Illinois, College of Medicine.

4:00- 5:00 Moving Pictures.

Luncheon can be served at a nominal cost at the hospital canteen. To reach the hospital take Garfield Park Elevated to Des Plaines Avenue station where a bus leaves for the hospital (Vaughan Unit).

Application For Space In The Scientific Exhibit

ILLINOIS STATE MEDICAL SOCIETY

Chicago, Illinois, May 10, 11, 12, 1948
Palmer House — Red Lacquer Room

Application is hereby made to the Committee on Scientific Exhibit for space for an exhibit

Title .....
(State exact title of exhibit suitable for the program and The Journal announcements)

Name of Exhibitor (s) .....

.....

Institution (s) .....

.....

City .....State .....

Please complete this blank and mail to Director of Exhibits:
John A. Mart, M.D. 700 North Michigan Avenue, Chicago 11

Original Articles

PULMONARY COMPLICATIONS DUE TO ENDOBRONCHIAL FOREIGN BODIES

PAUL H. HOLINGER, M.D., ALBERT H. ANDREWS, JR., M.D. AND GEORGE C. ANISON, M.D.
CHICAGO

The early literature of bronchoscopy and esophagoscopy deals almost exclusively with the problems encountered in the management of foreign bodies in the air and food passages. Acceptance of a greatly increased list of indications for bronchosopic procedures has so broadened the field of bronchoesophagology that problems of foreign body extraction have been relegated to a secondary role as other diagnostic and therapeutic phases of this field receive increasing attention. However, the pulmonary complications produced by foreign bodies are often so serious that it is timely to again stress the importance of foreign bodies as etiologic agents of extensive pulmonary disease.

This paper is based upon an analysis of a series of 1026 consecutive patients. Foreign bodies were removed from the hypopharynx, larynx, tracheo-bronchial tree, esophagus, or stomach by means of peroral endoscopy, or with the assistance of some peroral endoscopic procedure. The study does not include the patients with foreign bodies in the intestines nor the cases in which the foreign body was removed from the tonsil or hypopharynx by indirect means. Individual case reports are given only as illustrations of certain important diagnostic or therapeutic features, but generalizations regarding etiology, symptomatology and pathology may be made because the series is relatively large and includes all such cases seen over a period of eleven years in a children's hospital, a general hospital for charity patients, and a 500 bed private hospital.

From the Department of Laryngology, Rhinology and Otology, University of Illinois College of Medicine; the Children's Memorial Hospital; and St. Luke's Hospital, Chicago.

ETIOLOGY

The incidence of endoscopically removable foreign bodies as a disease entity is relatively small when considering the total admissions during the past eleven years to the three institutions mentioned. Nevertheless, foreign bodies were found to be responsible for a significant number of cases of obscure pulmonary pathology. The most superficial examination of the records demonstrates that they must be considered as a possible etiologic factor in patients of any age with obscure pulmonary disease.

Reference to the tables demonstrates that patients of all ages (one day to 84 years) may swallow or aspirate any type of foreign body. However, certain objects are found most frequently in specific age groups. Thus (Table 4), safety pins as foreign bodies are found most frequently in children 7 months to 2 years of age; peanuts in children 15 months to 4 years of age; coins in children 2 to 4 years; hardware in children 3 to 7 years, and chicken bones in adults 30 to 70 years of age. Other statistical data give the numbers of various types of foreign bodies in the series (Table 1), the site at which each foreign body was found (Table 2), and other factors concerned with age incidence (Tables 3 and 4).

Specific etiologic factors also may be noted from analysis of the statistics. As usual, carelessness is a constant etiologic factor. The fact that so many infants swallow or aspirate open safety pins which become lodged in the air and food

TABLE 1
Number and Percentage of Groups of Foreign Bodies in 1026 Consecutive Cases

Foreign Bodies	*Total Number*	*Percent*
Bones	212	20
Hardware and Metallic Objects	154	15
Safety Pins	122	11
Nuts	152	14
Coins	153	14
Vegetable Matter	77	7
Meat	92	9
Dental Objects	30	3
All Others	69	7
	1061	100

TABLE 2
Anatomic Location of Foreign Bodies in the Air and Food Passages

Anatomical Location	*Total Number*		*Percent*
Vallecula	5		1
Hypopharynx	66		6
Larynx	21		2
Trachea	35		3
Bronchi	318		29
Right Bronchus		211	
Left Bronchus		107	
Esophagus	604		56
Cervical Esophagus		436	
Thoracic Esophagus		118	
Cardiac Esophagus		50	
Stomach	27		3
TOTALS	1076*		100

*This includes the several locations of 50 multiple foreign bodies.

TABLE 3
Age distribution of Foreign Bodies in the Complete Series

Age	*Total*	*Percent*
Under One Year	86	9
From 1 to 2 Years	156	15
From 2 to 4 Years	238	23
From 4 to 14 Years	166	16
Adults	380	37
TOTALS	1026	100

TABLE 4
Age Distribution of the Most Commonly Encountered Foreign Bodies

Age Groups	*Bones*	*Safety Pins*	*Nuts*	*Coins*	*Meat*	*All Others*
Under One Year	1	53	2	11	0	19
From 1 to 2 Years	7	27	45	27	3	47
From 2 to 4 Years	7	18	72	56	1	84
From 4 to 14 Years	9	4	24	46	5	78
Adults	188	20	3	4	70	95
TOTALS	212	122	146	144	79	323

passages illustrates this point clearly. In only two instances in this series did it become necessary to remove closed safety pins; in one child the closed safety pin was one of the small "gold" type and had been aspirated and became imbedded in the right bronchus. In the other case, an infant had swallowed two large interlocked safety pins, and while they were free in the stomach, they were considered too long to pass through the turns of the duodenum and were removed endoscopically with biplane fluoroscopic assistance.

General anesthesia, alcoholism and unconsciousness from other causes are definite etiologic factors of foreign bodies. Dental objects such as insecure or partial bridges or loose teeth are the commonest in this group. While plates themselves are occasionally swallowed, the dental plate is more important in another manner. It is most frequently responsible for foreign bodies such as chicken bones becoming lodged in the esophagus since the person with a dental plate often is not able to feel the bone in his mouth until it reaches the soft palate or posterior pharyngeal wall after the act of swallowing has begun. In a great majority of teeth and dental crowns that were aspirated, the etiologic factor was dental extraction under gas anesthesia.

A subnormal mentality or psychopathic personality is likewise an etiologic factor in several instances. For example, one man forced a 4½ inch spike into his trachea and right bronchus. Another patient in an insane asylum swallowed or aspirated an open safety pin whenever she wished special attention.

PATHOLOGY

Many factors determine the pathological changes in the lung caused by foreign bodies. The type of foreign body, its location and sojurn, the age of the patient, and previous attempts at removal indicate a few of the variables. For the study of pulmonary complications, foreign bodies in the tracheo-bronchial tree may be divided into vegetable and non-vegetable with early and late pathologic changes. The vegetable foreign body, e.g. the peanut and the corn kernel, releases irritating unsaturated fatty acids which immediately set up a reaction, not only at the point of contact and the lung distal to it, but also throughout the tracheo-bronchial tree and the whole of the lung on one or both sides. The bronchial mucous

membrane becomes inflamed and edematous with the most marked changes at the site of the foreign body. Regardless of the degree of obstruction, the lung distally may show varying degrees of edema with patchy atelectasis, hemorrhage, and pneumonitis. Sub-glottic edema will occasionally supervene. If the obstruction is incomplete, moist rales and rhonchi may be heard, particularly over the obstructed lung segment. If the reaction is severe and generalized, these findings will be present in the whole of the lung on the same side or may even be noticed throughout both lungs.

Late complications of the foreign body of vegetable origin follow directly with the progress of the above changes. With the increased edema of the bronchial mucosa around the foreign body, obstruction becomes complete. The lung distal to the obstruction becomes atelectatic, infection follows, and the final result is extensive bronchiectasis or lung abscess.

The early pulmonary complications of the non-vegetable foreign body are almost entirely mechanical. The changes which follow depend upon the extent of obstruction and the shape of the foreign body. The irregular foreign body usually partially occludes one of the main or lobar bronchi. The first change noted is a partial bronchial obstruction resulting in a unilateral obstructive emphysema; the chest x-ray made during expiration records the following: the diaphragm is depressed on the involved side and the mediastinal structures are shifted away from the obstructed side. The smooth foreign body may become firmly lodged immediately upon entrance into the tracheo-bronchial tree. The lung distal to the obstruction soon becomes atelectatic. Complete occlusion of a main bronchus causes collapse of the lung distal to the occlusion with the upward displacement of the diaphragm, and a mediastinal shift towards the side of the obstruction. The bronchial mucous membrane shows few early changes at the site of the non-vegetable foreign body. Pointed objects may puncture the mucous membrane; slight inflammation and edema will be noticed at the site of the injury. The introduction of infected material on the foreign body is of doubtful importance in the pulmonary complications except in dental foreign bodies where oral sepsis seems to be responsible for the unusual severity of infections which follow aspiration of these objects.

The late complications of the non-vegetable foreign body are many and varied. The smooth, round foreign body may become firmly lodged causing a pressure necrosis of the bronchial mucous membrane. The irregular object more often causes areas of ulceration of the mucosa at the points of contact. Regardless of the extent of the obstruction, the lung distally will show inflammatory changes varying from suppurative bronchitis to bronchiectasis or lung abscess. Pneumothorax or mediastinal emphysema will occasionally occur following erosion or puncture of the bronchus or pleura. These complications may be caused by instrumentation during attempted removal. Infection of the mediastinal or pleural space frequently follows and the patient is acutely ill with a mediastinitis or empyema.

Since the purpose of this paper is to call attention to the pulmonary complications of foreign bodies, and thus to suggest this etiology when obscure lung disease is first seen, the individual complications are discussed separately. They are presented in the order of the degree of bronchial obstruction responsible for each.

Asthma: Asthma is rarely a complication of foreign bodies, but asthmatic breathing or wheezing is often described early in the foreign body history. Unilateral wheezing in a suspected asthmatic must always be considered as a possible foreign body or bronchial tumor. Occasionally, foreign bodies are bilateral; nut kernels have been the most common bilateral foreign bodies in this series although one adult, a bill poster, was found to have a tack in each main bronchus. They were responsible for his supposed asthma of 8 years' duration. When shown his chest x-rays he recalled the original aspiration-accident 8 years previously when he fell off a ladder with a mouthful of tacks.

Emphysema: Obstructive emphysema is caused by the rapid increase in intra-bronchial and intra-pulmonary pressure produced by foreign bodies which occlude the bronchus only on expiration. It was noted early in almost all the cases of peanuts in the bronchi. In some cases the tension becomes so great that air dissects outward under the visceral pleura and advances to the mediastinum. This tissue emphysema was observed in 2 cases; the emphysema in one ex-

tended throughout the mediastinum into the pericardium and advanced upward over the face, across the chest and down the arms. After removal of the foreign body, a peanut in the right bronchus, the process gradually subsided. The second case, also due to a peanut, had only slight crepitation about the neck on admission to the hospital, and while not as extensive as the first, responded promptly after removal of the peanut.

Pneumothorax: This complication occurred in three cases. In two, instrumentation prior to admission resulted in extreme tension pneumothorax requiring prompt and repeated aspiration of air from the pleural cavity with eventual closed drainage. They were due to sharp metallic foreign bodies, a nail and a screw. Both children recovered. The third case occurred during removal of a tooth from the right upper lobe bronchus. The degree of collapse was minimal and the air gradually absorbed without further complication. It might be of interest to note at this point that in 2 cases of foreign bodies in the left upper lobe bronchus a pneumothorax was artificially induced to permit a more direct approach to this bronchus. Collapsing the lung straightened the upper left lobe bronchus sufficiently to permit introduction of forceps under fluoroscopic guidance.

Atelectasis: Atelectasis follows the obstruction of any bronchus as the air distal to the obstruction is absorbed. As a diagnostic sign of bronchial obstruction, atelectasis is of greatest importance; however, its importance as a pulmonary complication of foreign bodies is due more to the secondary infection which follows than to the actual collapse of the lung itself.

Bronchiectasis and Lung Abscess: These complications, together with acute suppurative bronchitis, constituted the great majority of the pulmonary complications of this series of 1026 cases. Radio-opaque objects, e.g. teeth, screws, and nails were frequently found in patients when poor x-ray techniques had previously failed to demonstrate them. In other cases, no films had been made. Such foreign bodies, when present in the lung several years, months, or even in some cases only a few weeks, may produce extensive multiple lung abscesses or saccular bronchiectasis. Metallic objects were found and removed which had been present in the lung 3, 5, 8 12, 15 and even 35 years. Extensive bronchiectasis involving segments or entire lobes were associated with these objects and in most cases previous x-rays had failed to reveal the objects because extra density films were omitted. Productive cough, loss of weight, hemoptysis, clubbing of the fingers and repeated "pneumonias" were the usual symptoms. In a number of cases in adults, the foreign body had apparently been aspirated during childhood and the patient was unaware of its presence until it was demonstrated on the x-ray film.

Patients who developed lung abscesses following aspiration of a foreign body usually ran a more rapid and acute course than those with bronchiectasis. These abscesses were for the most part associated with vegetable foreign bodies such as corn, beans, various grass heads, twigs, and cockle-burrs. The abscesses due to dental objects, e.g., teeth, crowns, and dental bridges were less frequent, but were often associated with greater toxicity.

The therapy of the patients with bronchiectasis as well as those with lung abscesses was directed toward (1) removal of the obstructing foreign body to provide more adequate drainage, (2) chemotherapy, and (3) external surgical drainage, lobectomy or pneumonectomy as indicated when response to conservative procedures was not prompt or complete. There were two fatalities in this series due primarily to these complications. One four year old boy was admitted to the hospital acutely ill, with a history of "pneumonia" of two months' duration. Roentgen examinations revealed multiple lung abscesses on the right side; the hull of a kernel of corn was removed bronchoscopically from the right bronchus. Following an initial short period of improvement, progression of the suppurative process in the right lung necessitated external drainage. Death occurred following one of numerous surgical procedures 1½ years following the removal of the foreign body. The second patient, an adult, died of a metastatic brain abscess following a long standing lung abscess and bronchiectasis caused by a foreign body in the right bronchus.

Empyema: This was a relatively rare complication of intrabronchial foreign bodies. When present, it was generally produced by a perforation due to an esophageal foreign body. In patients in whom empyema was found secondary to bronchial foreign bodies, it was generally as-

sociated with an extensive lung abscess or bronchiectasis or an overwhelming sepsis following the aspiration of a tooth. In several of the cases, the tooth was not visualized until after thorough drainage of the empyema. In patients in whom the presence of a foreign body in the bronchus is complicated by an empyema the removal of the foreign body is considered of secondary importance to the drainage of the empyema.

LARYNGEAL COMPLICATIONS

Laryngeal pathology due to tracheal or bronchial foreign bodies is such an important complication often associated directly with the pulmonary pathology that it requires thorough analysis. Numerous foreign bodies, such as peanuts and corn, produced an intense inflammatory reaction in the larynx as well as in the trachea and bronchi. Mechanically, some foreign bodies, such as nails, corsage pins, and other pointed objects, produced laryngeal edema because they were loose in the trachea and struck the inferior surfaces of the cords on each expiration and cough. In every case, such edema subsided after removal of the foreign body without further operative interference becoming necessary. Transitory edema of the larynx produced by instrumentation in removal or attempted removal of a tracheal or bronchial foreign body is likewise a definite type of laryngeal pathology associated with foreign body problems. Because of the emphasis which Jackson places upon this complication, his dictum was closely observed and the duration of each bronchoscopy was limited, dependent upon the age of the child and the diameter of the bronchoscope used. Consequently, while in numerous instances a mild degree of laryngeal edema occurred, producing hoarseness or slight transient dyspnea, in no instance in this series did dyspnea increase sufficiently to necessitate a tracheotomy. In four instances, however, tracheotomies had been done prior to admission following previous attempts at removal of foreign bodies. In the first, an 18 month old child had been tracheotomized elsewhere before admission following several bronchoscopic attempts at removal of a common pin from the left lower lobe bronchus. The second was identical to that of the first in that the foreign body was a common pin and unsuccessful attempts at removal elsewhere had been followed by a tracheotomy before admission. This child was one year of age. The third child, also one year of age, had been tracheotomized when chips of enamel he had picked off the floor had become lodged in the larynx and right bronchus. The fourth, a child of 3 years of age, was admitted to the hospital dyspneic and cyanotic due to both a tension pneumothorax and an acute laryngeal edema. Two previous attempts to remove a nail from the right lower lobe bronchus had been followed by a perforation of the pleura and by the laryngeal obstruction. Relief was only partial following release of the intrapleural tension and a tracheotomy soon became necessary. No attempt at removal of the nail was made for several weeks until the pleural and laryngeal complications subsided. All four chidren recovered.

SUMMARY AND CONCLUSIONS

In a series of 1026 consecutive cases of foreign bodies in the air and food passages, 353 or 32 percent were found and removed from the tracheo-bronchial tree. Pulmonary complications depended upon the location, sojurn, and character of the foreign body. Vegetable objects (peanuts, corn, beans, twigs, grass heads, etc.) produced the most severe acute inflammatory processes and were often overlooked as the cause of the disease. Metallic objects (tacks, screws, parts of toys, safety pins and common pins) were not as frequently the cause of severe acute pulmonary infections, but were more often responsible for extensive bronchiectasis, severe hemoptysis, empyema and pneumothorax when they remained present in the bronchi for weeks, months or years. Cases of pulmonary complications due to overlooked foreign bodies were presented to stress the importance of obtaining an accurate history in any obscure lung disease. The individual complications discussed consisted of "asthma", emphysema, pneumothorax, atelectasis, bronchiectasis, lung abscess, and empyema. Two fatalities (0.6%) in the 353 cases of bronchial foreign bodies are recorded. One was due to a metastatic brain abscess from a bronchiectasis caused by a foreign body. The second occurred following one of a number of surgical procedures carried out for drainage of multiple abscesses secondary to a kernel of corn present in the bronchus two months.

Thus, to establish the diagnosis of a foreign body in the air or food passages one must carefully evaluate the history, the symptomatology,

the physical findings and the Roentgen studies, and then confirm or deny the diagnosis by the endoscopic examination. A positive history of choking or gagging or the statement of the patient, no matter how young, that he has "swallowed" something, must never be ignored. Yet, no matter how strongly one relies upon a positive history to lead to a diagnosis of a foreign body, a negative history is valueless and misleading. A study of the symptomatology and physical findings aids in establishing the presence or absence of a foreign body, and often gives an accurate indication of its location. The x-ray examination follows, and this should not consist merely of the interpretation of one film. It should include a complete Roentgen-ray study of the patient with fluoroscopy, antero-posterior film, laterals, comparison of inspiration and expiration and extra density films.

Finally, the endoscopic procedure must be considered not only from the standpoint of therapy, i.e., removal of the foreign body, but also as a diagnostic procedure when the other examinations are inconclusive. Finding a peanut in the bronchus of a child who has a negative foreign body history but an "unresolved pneumonia" of unknown etiology is a common example of the diagnostic phase of the endoscopic procedure in foreign body work. To find and remove the object early will avoid the many serious complications herein described.

MENINGOCOCCIC INFECTIONS

WALTER M. WHITAKER, M.D., F.A.A.P.
QUINCY

With the advent of chemotherapy, alteration in the clinical course, mortality rates, and complications of meningococcic infections stands out as one of the paramount contributions of medical science during World War II. It is the purpose of this paper to bring to you, briefly, our present-day conceptions of the various clinical manifestations with a resumé of modern therapy instituted in the treatment and control of meningococcic infections, as personally observed while in the Naval Service at the U. S. Naval Hospital, Farragut, Idaho in 1943-44. It was my personal responsibility to observe and treat 116 cases of meningococcic infections.

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Many of our present day concepts of the processes involved in the pathogenesis of meningococcic infections originated in World War I but have failed to receive wide recognition. During an epidemic at an Army Post in 1918, Herrick[1] noted that 45 per cent of the cases could be recognized in the blood stream or premeningeal stage, and that a small percentage of such cases failed to progress to definite meningeal involvement. In 1899, Gwyn[2] isolated the meningococcus from the blood stream and the knee joint fluid of a patient who had meningitis, indicating the importance of blood stream infection in the disease. Today, we have come to regard infection resulting from the meningococcus as divided into three definite phases, with certain clinical signs and symptoms peculiar to each stage. These three phases are (1) the nasopharyngeal, (2) the septicemic or invasive, and (3) the meningeal. Recent authors would also include in some cases, a myocarditic or endocarditic phase. Failure to recognize the signs and symptoms of the septicemic phase has been a major factor in the delayed treatment and the subsequent high mortality of these infections.

Nasopharyngeal Phase. — In the nasopharyngeal phase, there are usually no signs or symptoms and the meningococcus cannot be detected except by routine swabbing and culture. The majority of individuals are spared more extensive invasion. Positive carrier rates will vary in different epidemics, but during an epidemic may average 80 per cent of apparently healthy troops[3]. Carrier rates in the general population of over 20-30 per cent are highly indicative of an impending epidemic. The usual carrier rate in non-epidemic periods is about 2-10 per cent[4]. Many factors are apparently operative as to whether an individual becomes a healthy carrier or succumbs to the further invasion of the meningococcus. The presence of nasopharyngeal infection with resultant breakdown of local phagocytic barriers in the nose and throat membranes seems to play a major role in the capacity of the organism to enter the blood stream. Factors in the training life of the individual, which tend to alter or lessen his host resistance, such as physical training with attendant fatigue, inoculations, the development of a more virulent strain of organ-

isms in the nasopharynx, plus the development of a high incidence rate of carriers, may all be operative in allowing the development of the second or septicemic phase.

Invasive or Septemic Phase. — This phase represents a definite clinical entity, easy of recognition in most cases. Meningococcic infection is essentially a generalized sepsis with the infection entering the blood stream via the nasopharynx. Patients sometimes die in the second phase from a fulminating, overwhelming sepsis, but they may recover quickly, with or without treatment, or more commonly, progress rapidly to the meningeal phase. In some cases, however, there may exist for weeks, a syndrome manifested by chronic fever, chills, sweats, and arthralgia finally proven, by positive blood culture, to be a chronic meningococcemia. Most of the fatalities that occur from meningococcic infections, occur as a result of overwhelming sepsis, which may terminate before any evidence of the disease is discovered in the meninges or the spinal fluid. Delay in instituting treatment leads to increased mortality, but it must be said, in all fairness to medical personnel, that even when one's attention is focused on the likelihood of fulminant cases of meningococcic infection and early treatment instituted, there will still be fatalities, in spite of prompt recognition and treatment. This clinical condition of overwhelming, fulminant meningococcemia, associated with a rapidly developing petechial and purpuric eruption with adrenal hemorrhages noted at autopsy, has been recognized in medical circles as the Waterhouse-Friderichson syndrome, which will be discussed in more detail later. In those instances of rapid fatality, the basic premise of virulence of organism versus immunity of host is apparently so altered that even prompt therapy is often futile.

Recognized cases of meningococcemia are becoming much more prevalent and constitute an important group in any large series of cases. In 112 cases of meningococcic infections observed at Fort Bragg, North Carolina, 32 cases were noted without meningitis by Daniels, Soloman, and Jaquette[5]. Hill and Lever[6] observed 13 cases of meningococcemia alone in a series of 68 meningococcic infections.

Of the 116 cases herein discussed, 25 were considered instances of definite meningococcemia. Analysis of the major clinical findings in these 25 cases revealed a history of accompanying or preceding upper respiratory infection during the previous 7-10 days in 76 per cent. Fever, chills, headache, and vomiting were almost universally present. In fact, one may state that the five manifestations of fever, chills, headache, rash, and arthralgia, developing suddenly in an individual with the history of a recent upper respiratory infection, should immediately suggest a meningococcic infection with blood stream invasion, especially in the presence of a known epidemic.

Although all five of the afore-mentioned findings may be present at the onset of any acute infection, the characteristic rash is, of itself, almost pathognomonic of infection by the meningococcus. This rash was observed in all 25 cases with meningococcemia. I think one can consider the skin manifestations of meningococcemia as occurring in three types, one or all of which may be observed at some time in the same patient. The least common form of the rash in my cases consisted of discreet, pinkish, macular spots, varying from pinhead size to ¼ inch in diameter, fading easily on pressure and usually seen on the lower abdomen, chest, forearms, and distal portions of the lower extremities. These lesions may be very evanescent and slightly tender. They are somewhat similar in color to rose spots, but are usually much larger and more numerous.

The second and most common type of lesion noted was the discreet, reddish purple, petechial spot, not fading on pressure, not tender, and varying in number from a few spots to many hundred. These petechial lesions are best observed about the ankles, wrists, flexor surface of the forearms, and on the abdomen, and vary in size from 1-3 mm. They may appear on the mucous or serous membranes. They usually appear during the first 24 hours of the blood stream invasion and tend to gradually fade in the course of a few days, leaving only faint discoloration of the skin for a short time.

The third type of rash is seen most characteristically in cases of severe or overwhelming sepsis, and consists of purpuric and ecchymotic spots (suggillations) of various sizes, purplish in color, which may at times become confluent, involving areas several inches in diameter and indicative of the purpura fulminans associated

with the Waterhouse-Friderichson syndrome. The intensity and severity of the rash in the cases observed seems to parallel the gravity of the infection. Obviously, cases of a severe type may occur with little or no rash, but in my experience these cases have been predominantly meningeal and not septicemic. Observations of the various types of skin lesions associated with meningococcic infection leads one to believe that these lesions are as diagnostic for such infections as the rashes of scarlet fever, measles, chicken pox, or other exanthemata are specific for those diseases. Lack of stressing the importance of skin lesions in diagnosis has probably been due to a varying incidence of these lesions in different epidemics and to the possible lessened frequency of skin lesions in sporadic cases. Rolleston[7] noted that 59 per cent of the cases in World War I showed skin lesions, but Borovsky recorded only 6.7 per cent showing skin lesions during the Chicago epidemic of 1930. Strong[8] observed petechiae in 82 per cent of 92 cases. While the various types of rashes in meningococcemia may be confused with measles, Rocky Mountain spotted fever, typhus fever, typhoid fever, or purpura simplex, the history and other clinical findings presented will usually serve to easily differentiate these diseases. The diagnosis can and must be arrived at early in the disease, by the mode of onset and type of rash, even before the spinal fluid shows any abnormalities and before the blood culture may be ascertained as positive. Negative spinal fluid may become positive in a few hours and waiting to establish diagnosis and institute therapy may be disastrous. Undoubtedly, our ability to diagnose meningococcemia will vary in different epidemics, since in many instances it merges quickly into the more commonly recognized stage of meningeal involvement. Ability to diagnose meningococcemia depends upon the opportunity to observe cases early, the awareness of the significance of the early signs and symptoms, the virulence of the infecting strain of meningococcus as related to the host's natural immunity, and lastly, to the resistance offered at the meningeal barrier which, if very slight, is likely to allow the development of an early meningitis.

Monthly Incidence. — The monthly incidence of cases revealed the highest peak during the winter and spring months with almost complete cessation during the summer months of July, August, and September. This curve of incidence directly paralleled the occurrence of respiratory infection, as would be expected. March 1944 afforded only one hospital admission for meningococcic infection as compared to 22 in March 1943. This marked decrease was attributed directly to the widespread sulfa-prophylaxis program instituted in the late fall of 1943, which led to a very diminished carrier rate among the personnel.

Severity of Cases. — Attempts were made in this series of cases to gradate the patient's clinical severity, using as criteria the mental state on admission, intensity of rash, evidence of spinal fluid involvement, and fever.

Grade I included patients with evidence of skin lesions of average intensity associated with a clear mental state and no abnormal spinal fluid findings. Of course, this group comprised most meningococcemias, except those of the overwhelming septic type. Grade II comprised those patients with average intensity of skin lesions, associated with positive spinal fluid evidence of a purulent meningitis and a dulled or confused sensorium. Grade III comprised those patients with moderately severe rashes associated with definite spinal fluid findings and more marked mental changes than those of grade II. None were observed in this series. Grade IV comprised those patients with severe rash of purpura fulminans, associated with evidence of overwhelming sepsis, often leading to rapid death in coma and shock. Four patients were observed in this category. Two recovered and two died within a few hours after admission. In the entire group of 25 patients with meningococcemia, these two deaths represented our mortality. Both patients had intense petechial and purpuric skin lesions, low blood pressure, and coma, temperatures of 105 and 107, respectively, occurring terminally. Autopsy in each instance revealed adrenal lesions consisting of extensive hemorrhagic necrosis. Two other patients, apparently of equal clinical severity, survived.

Menincococcemia Types. — As has already been mentioned, of the 25 cases placed in the category of meningococcemia, 76 per cent had brief or accompanying upper respiratory infections. Headache, fever, chills, vomiting and rash were present in all cases. The rash was of

macular type in nine cases, while in four cases there was an intense petechial and purpuric eruption, typical of the Waterhouse-Friderichson syndrome. The majority of the cases showed the usual petechial rash already described. Three patients in this group of 25 cases had negative spinal fluids on admission, but developed pleocytosis of polymorphonuclear type, with organisms noted by smear and cell counts of 4,000 to 20,000 within 8-12 hours after a previous negative tap. Blood cultures were done routinely on admission, being positive in 36 per cent of this group. Doubt might be placed on the clinical diagnosis of the remaining cases in this series, which were not substantiated by positive bacteriologic evidence. However, the mode of onset, characteristics of the skin lesions and the presence of an epidemic together with the prompt response to sulfa drugs was considered sufficient to warrant the diagnosis. Particularly, was any doubt dispelled after observing the three patients just mentioned, two of whom had negative blood cultures and all showing negative spinal fluids on admission but with usual clinical signs and typical rash; then all proceeding to develop a positive spinal fluid in only a few hours. This serves to again stress the great significance of the diagnostic rash in the septicemic phase of meningococcic infections.

Meningitic Types. — In the 91 patients exhibiting meningitis, 67 per cent gave a history of acute upper respiratory infection, existing at the time of entry or during the preceding 7-10 days. Symptoms of fever, chills, and vomiting, and headache were practically universal. Seventy-eight per cent showed definite skin lesions, which were of petechial character in almost all instances. A history of joint aches or pains occurred in 57 per cent, but the occurrence of actual swollen tender joints on admission or during the course of illness was quite low. Herpes occurred in the meningococcemias in only five cases or 20 per cent, but 32 per cent of the meningitis cases exhibited herpes. Leukocyte counts on admission ranged from 7,800 to 55,400, averaging about 27,500. However, in one instance of Grade III severity with a positive blood culture, a white count was only 9,750. Spinal fluid counts ranged from 30 cells to 83,000 in one who expired untreated. The highest cell count in a recovered patient was 53,600. Spinal punctures were not repeated after the initial tap except in rare instances, to denote the progress of the disease, particularly as regards incidence of organisms, for relief of severe headache, and as a routine measure at the end of two weeks, prior to release from isolation. In view of the uniform normalcy of the fluid at the end of two weeks, it is believed that this final tap was often unnecessary. The spinal fluid was positive for gram-negative diplococci in 68 cases. In 21 cases, no organisms were found, either by blood culture or by spinal fluid examination. Cytology of the spinal fluid, presence of the typical rash and symptoms, with no clinical evidence of any other bacteriologic type of purulent meningitis, and the presence of an epidemic were deemed sufficient proof of true meningococcic infection.

Treatment. — In no other acute bacterial infection has chemotherapy produced more striking results than in the field of meningococcic infections. In the last war about 6,000 cases of such infections were reported by this country with a mortality rate of 40 per cent. In the present war, the average mortality rate was from 3-5 per cent in the majority of series reported. Not only has there been a tremendous reduction in mortality rates, but the entire clinical course of the disease has been altered, as evidenced by shortening of the period of active infection, briefing convalescent time, and the almost complete freedom from distressing complications or relapses. Relapses occurred in World War I in about 50 per cent of the cases, but are very rare now. True recurrences of the disease are also exceedingly rare, but they may occur many months after the original infection. It must be borne in mind that in dealing with military personnel, we were dealing largely with the age group of 18-25 years of age when the chances for recovery were most favorable, regardless of the treatment used. In my series of cases, we had the opportunity to observe the effect of various sulfa drugs on meningococcic infections. Opportunity was also given to observe the combined effect of antitoxin and chemotherapy. Because of the frequency of serum reactions, but not of an alarming nature, and the many reports of good results from chemotherapy alone, the use of serum was discontinued with no preceptible changes in the therapeutic results. As regards therapy for the meningococcemia cases, most of whom were fully conscious and able to take medication orally, the

plan of treatment was to administer a sulfa drug in dosages of 1½-2 grains per body weight for 24 hours, combining it with a clysis of sulfa drugs if vomiting or dehydration was present. Fluids by mouth or parenterally, sufficient to secure 1200-1500 cc. of urinary output daily, were given. Usually 12-15 gms. of a sulfa drug were administered in the first 24 hours in these cases and reduced to 8 gms. daily until the temperature remained normal for 2-3 days. The dosage was then tapered down gradually, but was usually maintained at 4-6 gms. daily for 10-14 days.

Of the meningococcemia cases of Grade I severity, 11 responded promptly to oral sulfadiazine alone, three to oral sulfadiazine and parenteral sodium sulfadiazine, two cases to oral sulfadiazine and sulfanilamide by clyses. Three cases of Grade II severity responded to oral sulfadiazine and parenteral sodium sulfadiazine and antitoxin intravenously. Two cases of Grade IV severity died, one two hours after admission with no specific therapy and one case died eight hours after admission. These were both examples of the Waterhouse-Friderichson syndrome. Two cases of similar nature recovered with oral sulfadiazine and parenteral sodium sulfadiazine, and antitixin intravenously plus plasma, adrenal cortical extract, and intravenous glucose.

Therapy for the cases of true meningitis was also varied, but consisted fundamentally of sodium sulfadiazine intravenously with clyses of sodium sulfadiazine, followed by oral sulfadiazine as soon as the patient was able to tolerate the drug. Antitoxin, plus the chemotherapy, was used in a total of 51 cases in the series with no appreciable alteration in clinical course or mortality rates as compared to chemotherapy alone. Our routine for the diagnosis and treatment of meningococcic infections was finally standardized as follows: (1) Immediate spinal tap with examination of the fluid for white cells, smear, and culture. Sugar estimation was advised. (2) Spinal tap was repeated in 8-10 hours if originally negative, and the petechial rash or meningeal signs persisted. (3) Routine blood culture on examination before any therapy was given. (4) Immediate intravenous administration of sodium sulfadiazine, 5 gms. in 100-200 cc. of distilled water without awaiting bacterial confirmation of the disease. (5) If the patient was unconscious, vomiting, or had a severe rash the intravenous sulfadiazine was supplemented by clyses of the same drug, 5 gms. (.5%) in 1,000 cc. of Hartman's solution. The clyses was repeated every 8-10 hours for the first 24 hours. Total sulfa dosage was based on at least 2½-3 grains per pound body weight in 24 hours. (6) The intravenous sulfadiazine was not repeated after the initial dose. A blood level of 15-20 mgm. was easily maintained by daily clyses until the patient could tolerate the drug orally. (7) Sulfa therapy was continued for 10-12 days in gradually diminishing doses after the temperature had become normal. (8) Close observation of daily urinary output was maintained, securing an output of 1200-1500 cc. daily. Complete blood counts were done at least twice weekly, and blood pressure was taken every few hours in patients with severe rashes. (9) Sodium luminal was given by hypodermic as needed for restlessness or headache. (10) The patient was watched carefully for bladder distension. (11) Spinal tap was repeated on the 14th hospital day, and the patient released from isolation after two negative nose and throat cultures were secured.

This routine was carried out in practically every case in this series during the last 6-7 months that the study was made. Adequate sulfa levels were reached easily and showed values of 18-20 mgm. per 100 cc. after 24 hours. A blood level of 40 mgm. was reached on one occasion without any ill effects. Perhaps equally good results could be obtained from lower levels but in view of the known individual variations in rapidity of excretion, with no serious ill effects noted from these levels, plus the general acceptance of the need of intensive treatment, it would seem that the results of such treatment warrant its continued usage.

Specific antitoxin seems to occupy no favored place in the treatment of meningococcic infections. The rare cases known to be sulfa resistant or instances in which the Waterhouse-Friderichson syndrome is evident, seems to be the only cases in which its use might be indicated.

Complications. — Complications were notoriously infrequent and nonimportant as compared to those in the days before chemotherapy. Arthritis occurred in five patients, cranial nerve defects occurred in two patients, affecting the seventh nerve in one instance and the sixth in another, both of which were very transitory.

Aphasia occurred in one case, the patient being unconscious for three days with a cell count of 53,600. He was discharged well after three months. Twelve patients required catheterization. Reactions from the antitoxin occurred in 27 instances. Reactions from the sulfa drug were few, four patients developed rash, three exhibited hematuria and two showed bone marrow depression of white cells.

Mortality Rates. —There were five deaths in this entire series of 116 cases, a total mortality rate of 4.31 per cent. None of the treated cases of meningococcemia died, but two cases died within 24 hours untreated. Of the 91 cases of meningitis, two of the treated cases died and one died untreated. It is felt that deaths occurring within 24 hours should be considered as having occurred too early to note the effect of any therapy. If these cases are excluded, then only two deaths occurred in patients treated over 24 hours, resulting in a corrected mortality rate of 1.72 per cent for all treated meningococcic infections. Of the two fatal cases afforded intensive treatment, one resulted at the end of 24 hours in a patient ill for one month with acute rheumatic fever, who suddenly developed a Waterhouse-Friderichson syndrome. The other fatality occurred in a patient treated for three days, who at autopsy showed an extensive suppurative frontal sinusitis with extension into the dura. The existence of this suppurative focus with direct continuity with the intracranial cavity was capable of affording too overwhelming an infection for cure. The third fatal case of meningitis was a patient who received no therapy whatsoever, having been admitted as a catarrhal fever, and the diagnosis not being suspected until after death. Fatalities in the two cases of meningococcemia were examples of the Waterhouse-Friderichson syndrome confirmed at autopsy with death occurring two and eight hours, respectively, after admission.

Penicillin Versus Sulfa. — Considerable discussion has arisen relative to the comparative merits of penicillin and sulfa drugs in the treatment of meningococcic infections. Most every investigator is agreed that penicillin, when used extrathecally only, penetrates into the spinal fluid too irregularly and in concentrations too small to be reliable. If one is dealing with a meningococcemia alone, penicillin may be quite successful, but it has several disadvantages as compared to sulfa for the therapy of meningitis. First, the necessity of frequent lumbar taps for intrathecal therapy, secondly, the lack of proper distribution through the subarachnoid space, even after intrathecal therapy, tending to allow formation of adhesions and pocketing. Sulfa drugs are distributed rapidly throughout the fluid and this probably explains the more favorable clinical and bacteriological response to sulfa. Thirdly, positive nose and throat cultures are observed often with penicillin, even after several days' treatment, while cultures become negative in a few hours on sulfa therapy. Fourthly, sometimes strains of meningococci are known to be resistant to penicillin, and lastly, it is known that, experimentally, 10 mgm. of sulfadiazine is equivalent to 7,200,000 units of penicillin, in the protection of mice against meningococcic infections.

From the foregoing, plus the excellent therapeutic results obtained with sulfa therapy alone, it is believed that sulfa therapy is the choice in the treatment of practically all cases of meningococcic infections. The rare cases that develop or already show an existing renal insufficiency, or the patient who is known to have had previous sulfa sensitivity, or cases exhibiting a probable Waterhouse-Friderichson syndrome, or those cases in which no favorable response to sulfa occurs after full dosage, are I believe, the only instances in which one would prefer penicillin to sulfa. While it is true that penicillin administered systemically in meningitic cases will penetrate into the subarachnoid space and often result in cure, it does so in too irregular a fashion to be dependable. Intra-spinal or intra-cisternal administration of penicillin is necessary. There is no rational reason for not combining these drugs. Suppurative meningitis, other than meningococcal, is such a serious disease that the combined use of all available treatment is justified.

Waterhouse-Friderichson Syndrome. — The essential diagnostic points of this syndrome and the absolute need for rapid intensive therapy, if patients are to survive, should be emphasized. This syndrome, characterized as the meningococcal-adrenal syndrome, exhibits the three cardinal manifestations of fulminating septicemia, massive purpura, and bilateral adrenal hemorrhage, and was originally believed to occur primarily in

children under the age of two years. Any large series of cases seen in military service where we were dealing with young adults, revealed about 4-5 per cent of such cases. The syndrome usually manifests itself in a child of two years of age with sudden onset of vomiting, irritability, restlessness, and fever, and often diarrhea with abdominal pain. The child has been entirely well previously. There is the rapid development of petechial lesions, progressing to widespread purpura associated with a striking mottled type of cyanosis, low blood pressure, rapid respirations, imperceptible pulse, and often death within 24 hours. There are probably two syndromes, one, the acute adrenal syndrome, that may be reversible, with the main lesion in the adrenals, and secondly, the mixed or encephalitic adrenal syndrome, with lesions in the adrenals and the brain tissues. In the pure adrenal syndrome, the individual remains totally conscious until death, and has an air hunger, while in the encephalitis variety, coma, and rapid stertorous breathing develops. There were only about 12-15 reported recoveries in January 1945, but more cases are appearing in the literature. About 150 or 160 cases have been reported. No cases have recovered who exhibited the encephalitic symptoms. Spinal fluid is often negative, the individual not living long enough for the fluid to become positive but the blood culture or serum from purpuric lesions will usually be positive. The essential pathology has been observed in the adrenal glands in newborns, and trauma, asphyxia, and hereditary syphilis may produce a similar syndrome, while in older children it may be seen in scarlet fever, diphtheria, and pneumonia. The exact cause of the adrenal hemorrhage is not known, but it is believed to be the result of toxic effects on the thin vessel walls increasing their permeability. Hemorrhage occurs mainly in the medullary portions of the adrenals, then into the cortex by contiguity.

Treatment must be vigorous and immediate if lives are to be saved. Any patient, especially a young child, who develops spontaneously, or in the course of a contagious disease, a purpuric eruption with a profound shock and hyperpyrexia, should be considered as manifesting this syndrome. Treatment is directed toward combating shock by heat, stimulants, and plasma, toxemia by specific antitoxin, bacteremia by intravenous sulfa and penicillin, and adrenal cortical extract to replace hormonal loss. Death in the short lived cases is probably due to an overwhelming toxemia, causing profound shock and in cases that survive longer, to hepatorenal failure. We know that the adrenal cortex plays a part in maintaining renal function and body resistance to toxic agents. Damage by hemorrhage results in failure of adrenal function and increased sensitivity to the meningococcus toxin.

SUMMARY

(1) Meningococcic infections are primarily septicemic, and meningitis is only one manifestation. (2) The cardinal manifestations of fever, chills, headache, characteristic rash and arthalgia, in the presence of an epidemic require early institution of treatment, while awaiting laboratory confirmation. Failure to recognize meningococcic infections in the septicemic phase will lead to unnecessary deaths. (3) The mortality rate seems to parallel the intensity and severity of the skin lesions. (4) Evidence of adrenal damage with vascular failure must be carefully watched for, particularly in patients with extreme skin manifestations of the purpura fulminans or intense petechial types. Prognosis in such cases is always grave but not necessarily so if early intensive treatment is instituted. (5) A total mortality rate of 1.72% in cases treated at least 24 hours is indicative of the tremendous advance in therapy in this disease as compared to the last war. (6) There is no evidence to substantiate the value of routine employment of antitoxin in treatment of these cases. (7) Early diagnosis with prompt institution of chemotherapy, preferably by the parenteral route, maintaining a high concentration of the drug in the blood and spinal fluid, leads to rapid control of the infection and ultimate recovery in over 98% of meningococcic infections. (8) A plea for more intensive observation and recognition of the septicemic phase of the disease, particularly as it relates to the Waterhouse-Friderichson syndrome is made.

Quincy Clinic

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THE PRESENT STATUS OF PENICILLIN IN DERMATOLOGY — A RESUME'.

NORBERT C. BARWASSER, M.D
MOLINE

The wide usefulness and efficacy combined with its low toxicity have given penicillin the status of one of the most important drugs in modern medical practice. The dermatologist and syphilologist have been as enthusiastic as the general clinician over the favorable reports of and experiences with its action in combating disease. No drug in our time has been so thoroughly studied in so short a period as penicillin, and the reward has been great.

The exigencies of the war were largely responsible for the impetus to research on penicillin and in fact the early experiences were almost limited to the armed forces, but today nearly all practitioners of medicine have in some measure become familiar with its power against numerous pathologic entities. It becomes necessary now, to definitely evaluate the drug as to distinct indications, dosage and limitations in the several fields of medical practice.

The results of the use of penicillin in certain cutaneous infections, as well as with certain phases of syphilis, have been impressive but the exact evaluation is still in a state of flux and the purpose of this paper is to set out pertinent facts concerning penicillin as we know them at this time. Syphilis because of its numerous cutaneous manifestations, is one of the comparatively few systemic diseases included in dermatology, and a brief discussion of the drug therapy will be incorporated in this report.

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From the original mold, known as *Penicillium notatum* and *P. chrysogenum*, up to this writing, four important fractions have been isolated — known as penicillins F; G; K; and X. Commercially, the products are a mixture of two or more of the four penicillins. They differ chemically in the radical attached to the basic penicillin molecule (empirically $C_{10}H_{13}O_4SN.R$), where R represents benzyl (CH_2) in G, and phydroxy-benzyl (CH_2OH) in X.

These fractions occur in varying amounts in the products of the different producers and depend on the strain of the mold, the method used in preparation and the method of purifying the drug. Most of them contain predominately G or a mixture of G and F.

It has become apparent that they vary greatly in effects. For example: Pencillin K is relatively inefficacious in the treatment of syphillis. This is related to the fact that it is rapidly inactivated in the body and the recovery in the urine is very low. Penicillins G, F and X are recovered up to ninety percent. The result of careful study of the various fractions reveals that penicillin X is most effective in streptococcus and pneumococcus infections, whereas G is better in syphilis. Incidentally, streptomycin, another new antibiotic, has spirocheticidal action, but it is believed that penicillin G is more than three thousand times as effective.

A number of salts of penicillin have been prepared and of these the sodium, potassium and calcium salts are at present available. All are extremely soluble in water and the yellowish color is due to the "impurities". The salts may be dissolved in saline or glucose solutions and they may be incorporated with such accessory drugs as 1% procaine without loss of potency. Just what therapeutic value the "impurities" in penicillin may have has not been determined.

The mode of action of the drug on organisms is not fully understood but it is unique in that little or no penicillin is used up. Therefore, it is believed that penicillin exerts an enzyme action on the organisms. The effect on bacteria apparently is that of inhibition of division ability. Experiments show that elongated and/or angular forms develop before complete dissolution of spirochetes in vitro. Furthermore, penicillin appears to be effective only against rapidly multiplying organisms and relatively inactive against

them in the resting phase. Later on local multiplications of organisms may begin again with new lesions which may be modified by the allergic sensitization of the host. Under these circumstances penicillin might again become effective.

Some believe that an extended administration of penicillin is desirable in order to hold in check the few organisms which may be in a relative resting phase until they can be neutralized by the defensive mechanisms of the body.

New methods of treatment appear from day to day but those in most common usage include ointments, suppositories, wet dressings, solutions, the salts in powder form, spray, ingestion, inhalation and injection. The latter includes intravenous, intramuscular subcutaneous and intraspinal (either intermittently or by continuous drip). The injection may be in a water, saline or glucose solution, or in a combination of oil and beeswax (POB). Regional injection is the latest method with the needle inserted at the site of the infection. The advantage of this method in local infections is the higher concentration of the drug where it is most needed. It should be pointed out that metals may not be incorporated with penicillin and also that penicillin in oil and beeswax must be kept thoroughly dry as moisture or metals inactivate the penicillin in this form.

The unit of the drug, or the Oxford Unit, is that amount which is equal in activity (against the standard strain of staphylococcus aureus) to 0.6 micrograms of the International Standard. (Pure sodium penicillin G). In other words, 1,000 units is equivalent to .6 milligrams of sodium penicillin G. The unit varies somewhat in the ampules and contains anywhere from 85,000 to 160,000 units. The dose in aqueous solution may vary from 20,000 to 100,000 units per injection and there is no apparent advantage in exceeding the recognized dosage as it simply is a waste of the drug. However, the dose in pencillin in oil and beeswax (POB) may reach 600,000 units in one intragluteal (without massage) injection given once a day, preferably during the late afternoon to provide a higher concentration in the blood during the resting hours, at which time it is more slowly absorbed and excreted.

Oral administration has not been too successful thus far because of the partial destruction of the drug by the gastric juice and due to the relatively poor absorption of it through the intestine. About five times as much penicillin is required to produce the same blood level as by the intramuscular route. However, the troches dissolved in the mouth, have proven a valuable adjunct in Vincent's infection.

Physicians in the military and naval service marveled at the quick and satisfactory phenomena in penicillin treatment of cutaneous infections, which were much more common than in civil life. Especially in impetigo, did they observe radical improvement over familiar methods. The results of such mass experiment now assure the civilian dermatologist that he may promise many of his adolescent victims of this disfiguring disorder that one or two days' treatment may clear the blemishes from the face and they may not need miss one day of school.

In general, diseases caused by Gram positive cocci and bacilli and Gram negative diplococci, as well as certain spirochetes, respond well to penicillin therapy. Skin disorders that have proven amenable to pencillin treatment, and my own experience bears out much of the story, include the following:

- Abcess
- Actinomycosis
- Anthrax
- Carbuncles
- Cellulitis
- Coccogenic sycosis
- Ecthyma
- Erysipelas
- Erysipeloid of Rosenbach
- Folliculitis
- Furunculosis
- Hidradenitis suppurativa
- Infectious eczematoid dermatitis
- Impetigo
- Keratodermia blennorrhagicum
- Paronychia
- Pyoderma gangrenosum
- Syphilis
- Ulcers (infected)
- Vincent's angina
- Yaws
- Secondary infections in:
- Dermatitis venenata
- Kerion
- Mycosis fungoides

Unsatisfactory results have followed the treatment with penicillin of the following:

- Acne vulgaris (except inapredominant coccus infection)
- Chancroid
- Dermatomyositis
- Eczema
- Granuloma inguinale
- Lupus erythematosus
- Lymphogranuloma venereum
- Pemphigus vulgaris
- Psoriasis

At this point, it might be well to present some of the writer's own personal experiences

with penicillin therapy and especially POB in dermatological practice.

Penicillin has been a most effective agent in the treatment of various dermatological infections that have come to my attention. To illustrate, a group of 30 case histories of patients who have received penicillin were taken out of the office files for tabulation and evaluation.

This study summarizes the records and observations of a rather typical group encountered in my private practice. (See Table 1.) It pretends to no outstanding variation from similar studies of the service groups but is representative of a cross section of civil life and without benefit of hospitalization, except in two cases. It will be especially noted that with the exception of 6 cases all received POB of the amorphous type and prepared according to the Romansky formula. The results were generally good with no observed serious reactions except one case of giant hives at the point of injection. Two cases were of especial interest, the first because of the excellent results in a case of severe Vincent's infection, and the second as it introduces the new method of using pencillin in oil and beeswax (POB) — namely regional injection.

The group consisted of 20 males and 10 females, one of the latter being a Negro woman. The ages ranged from two years to fifty-three years and the occupations of the adults were varied. Injections of POB were given once a day in all patients receiving this particular treatment. Only one patient proved sensitive to penicillin. This was No. 10, who developed giant hives and the penicillin treatment was discontinued.

Case No. 11 the patient had dermatitis venenata with impetigo and discontinued treatment. Case No. 14 had a recurrence of the ecthyma three months after dismissal. No. 21 had concomitant folliculitis of the scalp. No. 22 was the Negro woman, who had an open linear abscess of the perineum. This called for drainage and wet dressings, with the regional POB.

In case No. 23, the lesion returned. No. 25 had a nose infection. Patient No. 26 had eczema of the feet and No. 27 had eczema of the hands. No. 28 was hospitalized with a severe infection of the ears associated with a chronic eczema.

Case No. 30, a girl aged 12, was hospitalized with Vincent's infection. She was unable to take any food except liquids, could not speak and was able to open her mouth only slightly and with great pain. After one day of treatment, the mouth could be opened about 50% of normal opening and on the fourth day she could take soft food. All pain had disappeared by the fifth day and three days later she was discharged as cured.

Case No. 18, a man aged 30, had a carbuncle on the forearm 5 cms in diameter, raised about 2 cms, and had two openings. The needle was inserted on the medial side of the lesion, outside the area of induration, with the point reaching the center of the mass and 75,000 units of POB were injected. Pain in the lesion disappeared in three hours, and the patient worked that day using the arm, but a moderate general soreness developed through the arm which disappeared the second day. On the fourth day, a small incision was made in center of the lesion to facilitate the expulsion of pus and products of liquefication. On the fifth day the lesion was flat and showed only a slight induration. No other supportive treatment was given in this case.

The army and navy had a rare opportunity for mass research. They found, according to published reports, that with intramuscular injections of calcium penicillin in peanut oil and beeswax (POB), once or twice a day, results were as satisfactory as those obtained by the multiple injections of the drug in aqueous solution. The combination POB is used to slow elimination and increase absorption. Appreciable blood levels have been shown to be maintained for 24 hours with this treatment.

Effective penicillin blood levels have been placed at 20 units percent or (0.20 units per cc of blood) for most infections but may be exceeded by the continuous intravenous drip of the aqueous solutions in very severe infections.

A new adjuvant to further maintain higher blood levels has been found in the drug caronamide. (4′-carboxyphenylmethanesulfonanilide) It delays the tubular excretion of the kidney specifically for penicillin and thereby enhances the blood levels 2 to 7 times over the normal. Doses of 2.0 to 4.0 gms. are given at 4 hour intervals during the time of penicillin therapy. By the addition of this drug, penicillin may be given less frequently and still maintain adequate blood levels.

According to one study, penicillin-resistant

TABLE 1

Case No.	Duration	Dosage (units)	No. of Treatments	Results
		IMPETIGO CONTAGIOSA		
1	3 days	POB 300,000	1 gluteal inj.	Cleared in 24 hrs.
2	7 days	POB 150,000	2 gluteal inj.	Cleared in 3 days
3	5 wks.	POB 300,000	1 gluteal inj.	Cleared in 3 days
4	1 wk.	POB 150,000	2 gluteal inj.	Cleared in 3 days
5	4 days	POB 150,000	1 gluteal inj.	Cleared in 48 hrs.
6	3 wks.	POB 300,000	1 gluteal inj.	Cleared in 24 hrs.
7	1 wk.	POB 300,000	1 gluteal inj.	Cleared in 48 hrs.
8	1 wk.	Penicillin ung.		Cleared in 1 wk.
9	3 wks.	POB 75,000	2 gluteal inj.	Cleared in 4 days
10	3 wks.	POB 150,000	1 gluteal inj.	Discont. (hives)
11	1 wk.	Penicillin ung.		Not followed up.
		ECTHYMA		
12	4 wks.	POB 150,000	1 gluteal inj.	Cleared in 4 days
13	1 wk.	POB 150,000	1 gluteal inj.	Cleared in 5 days
14	3 wks.	POB 300,000	1 gluteal & ung.	Cleared in 4 days
15	6 wks.	POB 150,000	2 gluteal inj.	Cleared in 6 days
16	2 wks.	POB 150,000	3 gluteal inj.	Cleared in 4 days
		SYCOSIS VULGARIS		
17	5 wks.	Penicillin ung.		Unsatisfactory*
		CARBUNCLE		
18	1 wk.	POB 75,000	1 (regional)	Cleared in 5 days
19	6 days	POB 300,000	2 gluteal inj.	Cleared in 3 days
		ERYSIPELAS		
20	10 days	POB 150,000	1 gluteal inj.	Cleared in 4 days
		ABSCESS		
21	2 wks.	POB 300,000	1 gluteal inj.	Cleared in 6 days
22	2 wks.	POB 150,000	5 perineal (regional)	Cleared in 7 days
		FOLLICULITIS		
23	4 mo.	POB 300,000	1 gluteal inj.	Cleared in 5 days
		CELLULITIS		
24	1 wk.	POB 150,000	2 gluteal inj.	Cleared in 3 days
25	5 days	POB 300,000	2 gluteal inj.	Cleared in 3 days
		SECONDARY INFECTION		
26	3 days	POB 300,000	1 gluteal inj.	Cleared in 2 days
27	3 wks.	Penicillin ung.		Cleared in 10 days
28	5 years	Penicillin sol. 20,000	25 gluteal inj.	Unsatisfactory
		VINCENT'S ANGINA		
29	3 wks.	POB 150,000	6 gluteal inj.	Cleared in 9 days
30	10 days	Penicillin sol. 20,000	48 gluteal inj.	Cleared in 6 days

*Note: This case subsequently cleared up with 3 injections of P.O.B., 300,000 units each, given 24 hours apart.

staphylococci may develop during treatment and increase in frequency as treatment is prolonged. Large doses may prevent this development of staphylococci refractory to penicillin. This same study reports that all strains of haemolytic streptococci before and after treatment were sensitive to penicillin.

T. pallidum, according to practically all published reports, shows no resistance to penicillin. However, this fact does not preclude the possibility of relapse or treatment failure due to causes that may not be entirely understood.

The usefulness of topical penicillin therapy in the treatment of superficial infections of the skin is also seriously jeopardized by the increased incidence of sensitivity, which is being encountered. The present incidence of sensitivity reactions is apparently 15 per cent and this percentage may increase as more persons are exposed to the drug. Some recommend routine patch testing before local application of penicillin preparations.

The rate of permeability, if any, of penicillin through the unbroken skin has not been definitely established. Therefore, it should be remembered that the addition of boric acid compresses still is a valuable adjunct in the treatment of superficial pyogenic infection because of its ability to penetrate the unbroken skin. Dr. Kahlenberg and I confirmed this fact in experiments completed in 1927.

Penicillin is recommended for routine use intramuscularly before and after skin grafting in cases of ulcer of the leg that are treated by pinch grafts and in which the surface infection is caused by the Beta haemolytic streptococcus and haemolytic staphylococcus aureus, and it probably could be used with benefit for all ulcers, irrespective of the nature of the surface infection.

In local infections, disability is reduced far below the point reached by any other method of treatment. Pain is quickly relieved — in some cases within an hour and always within 36 hours. There is no deformity such as that frequently seen following radical surgical incision and drainage.

One of the problems facing the practitioner today is the frequent demand on the part of the patient that penicillin be used whether or not the organism may be susceptible to the drug. If the physician refuses to use the penicillin and the results of his therapy are strongly negative or even fatal, he may be blamed for not utilizing what the patient has been led to believe is a panacea. The situation may be handled in some cases, by pointing out to the patient the futility of the procedure with the warning that he may become penicillin-resistant and thus deny himself its effect in more serious disorders amenable to penicillin at a later date. The patient may also become sensitized and allergic to the drug. These are also definite arguments against self medication with penicillin, which threatens to become popular.

I have found no record of a single fatality in the use of penicillin, even in extremely large doses, unless one includes the few deaths of newborn infants who may have died under any other or no treatment.

While there are fewer untoward reactions with penicillin than with the sulphonamide drugs, a number of cases have provoked local pain at the site of the injection and/or other reactions such as slight fever, urticaria, transient azotemia, angioneurotic edema and, in rare cases, formation of sterile abscess. In these cases, the treatment may be changed to the sulphonamide drugs. Another site may be selected for the injection, thus relieving the pain. The antihistaminic drugs are recommended to allay the allergic reactions of the penicillin. A number of cases of giant urticaria in the injection area have been reported by others and one by me.

It is thought by some that the untoward reactions may not be due to the penicillin at all, but to unknown substances contained in the mixture and to some extent even in the crystalline preparations.

In the study of a group of miscellaneous skin infections treated with penicillin, it has been found that mycotic infections with the exception of some cases of actinomycosis generally fail to respond to penicillin and, as a matter of fact, often become exacerbated when penicillin is administered.

With the apparent increase in human anthrax, it is interesting to note a report that penicillin in heavy doses has been very successful in cutaneous anthrax. All patients treated recovered uneventfully.

In taking up the subject of the treatment of syphilis with this drug, some of the facts collected from various authentic sources are difficult to realize. The quick action of penicillin in most cases of early syphilis, especially in infected pregnant women, combined with the advantages in late syphilis and in neurosyphilis is impressive, especially to those who may have believed that arsenic and bismuth treatments were the last word. It is true that some cases may need the addition of metal therapy.

The status of the treatment of syphilis with penicillin is also necessarily fluid, and therefore we should not be arbitrary in the matter of dosage. However, the recommendation of the National Research Council, given last year, may be summarized as follows: 1. Early syphilis — 40,000 units every three hours for 60 doses — a total of 2,400,000 units during a period of 7½ days. 2. Latent syphilis — 40,000 units every three hours for 100 doses or a total of 4,000,000 units in 12½ days.

In the secondary stages and the relapses it is best to follow a combined treatment to include 1,200,000 units of penicillin in doses of 20,000 units every three hours for 60 doses and 0.04 grams of oxophenarsine hydrochloride (or its analogue) every day for eight days; bismuth in small doses totaling .6 to 1.0 grams. Since arsenic and penicillin are synergistic, smaller amounts of both are administered than if either were given alone. When penicillin is used without metal, it may be advisable to double the amount recommended above.

While bismuth preparations vary in effect, bismuth treatment added to the penicillin therapy has also reduced the incidence of early relapse. I reported general indications and contraindications to the use of bismuth in the treatment of syphilis, with other study in an earlier paper.

Milligram for milligram, penicillin is two to four times as effective as oxophenarsine hydrochloride (or its analogues) in man. Unlike that drug, the time over which penicillin is administered is as important as the total dosage. But as little as 1/10 of the curative dose, properly distributed at one period, kills most of the spirochetes. The rest is used for irradicating a small number of relatively resistant organisms.

It may become increasingly difficult to make a diagnosis of syphilis because of the masking influence of the widespread use of penicillin in other disorders. Care should be exercised in treating gonococcal infections with small doses of penicillin (50,000 — 150,000 units), for concomitant undiagnosed primary syphilitic lesions may heal entirely only to recur; secondary lesions may develop or the patient may unrecognizedly progress to the late sequelae of the disease. Even should syphilitic lesions be discovered before the healing occurs, they are rendered extremely difficult for diagnosis because of the rapid destruction of the surface treponemes by the inadequate doses of penicillin. Thus patients who have been treated for gonorrhea should be urged to return for periodic blood tests, particularly in event of any genital or cutaneous eruption and should be warned against sexual intercourse until the observation time is finished.

Relapse in syphilis may be due to a failure of host immunity or a longer duration of the disease. Studies indicate that 40 to 50 per cent of the clinical relapses actually may be reinfections. As a result of the rapid response to penicillin therapy in early syphilis it has been possible for a syphilitic man to infect his wife and to be treated and cured during her incubation period. She at a later date may reinfect him and vice versa. Thus a vicious cycle is established and this "batting" back and forth has been described as "ping pong" syphilis.

In nearly all reports of early syphilis, the results have been favorable when penicillin has been used, although the failure rate still remains about 20%. Intensive metal chemotherapy has been more effective than penicillin in reducing relapse and failure rate but the high incidence of treatment reactions, such as dermatitis and hemorrhagic encephalitis and also the fact that a substantial percentage of patients do not complete the schedule which they start, has made its use less desirable. Penicillin in aqueous solution injected intramuscularly in equal doses is a highly satisfactory routine. These treatments are given at 2-3 hour intervals for seven to eight days, with necessary hospitalization to assure regular treatment, to check on the patient and to prevent reinfection. Recent work in the use of POB emphasizes a minimum dose of 600,000 units or 2 cc, intramuscularly daily in syphilis.

Results are a bit inconclusive on latent syphi-

lis, and the so-called "Wasserman Fastness" has not responded better to penicillin than to other methods of treatment, and this has been thought to be due to the fact that penicillin is only effective in the rapidly dividing phases of the organism.

In late syphilis, gummas and nodular syphilids of the skin and mucosa heal rapidly. An important contribution is the effect of penicillin in clearing up the usual concomitant secondary infection which formerly continued on after metal therapy had completed its spirocheaticidal action.

There is considerable disagreement in the reports from different clinics on the effects of penicillin in neurosyphilis. The most striking beneficial effects have been on the spinal fluid. Penicillin, combined with malaria or other types of fever, may yield results superior to either method alone. Meningeal forms of neurosyphilis respond better to penicillin than do the parenchymatous. Penicillin alone in a total dosage of 4.0 to 10.0 million units over a time period of 7½ to 21 days, is recommended as an initial course of treatment for patients with asymptomatic (early or late) neurosyphilis, acute syphilitic meningitis, diffuse meningovascular neurosyphilis, gumma of the brain or cord, and vascular neurosyphilis. Penicillin plus fever is suggested for general paresis, taboparesis, primary optic atrophy, nerve deafness, syphilitic epilepsy, and Erb's spastic paraplegia.

Studies warn against intensive penicillin treatment in cardiovascular syphilis. This corresponds with the use of arsenicals in the treatment of this condition. However, a practical schedule for treating these patients has been worked out consisting of very small doses, beginning with 1,000 units given every three hours and increasing gradually to a more effective dose range.

Reports indicate that in syphilis in pregnancy penicillin is superior to other drugs. It has the advantage over heavy metal therapy in that it may be given at any stage of pregnancy, even at termination, with the prospect of a syphilis-free infant, although early treatment is advised. A minimum total dosage of 2,400,000 units is suggested. Serologic followup of the mother every two months until the reaction has been negative for a year is advised, and of the infant every two months for six months.

That penicillin is "the best single agent yet employed for the treatment of congenital syphilis" is concluded from an analysis of results in 252 infants treated at five cooperating university clinics. Over-all results were satisfactory in 73 per cent, unsatisfactory in 9.1 per cent, uncertain in 17.9 per cent. The fatality rate was lowered and clinical results were more satisfactory with passage of time. Recommendations are that penicillin dosage for syphilitic infants should be 100,000 units/Kg. (50,000 per lb.) body weight administered in 120 equal intramuscular injections at not more than 3 hour intervals over a period of 12 to 15 days.

Since suggestions for methods of penicillin therapy are largely experimental and the eventual decision on the best methods may not be determined for months or even years, the physician has a particular responsibility for careful follow-up and frequently repeated post-treatment observations on all patients so treated. Duration of treatment must be based on clinical experience. The problem of standardized penicillin therapy is further complicated by variations in sensitivity of a given organism to the drug and by variations in a given lot.

Experiments with pure crystalline penicillin G have not been completed, and the relative merits and superiority of the amorphous mixture compared to the crystalline penicillin G have not been definitely evaluated. Reports from pharmaceutical laboratories indicate that in the treatment of experimental infection in animals by the administration of very small doses of penicillin the effect of the amorphous type is better than that of the crystalline penicillin G. This is thought to be due to a substance in the penicillin mixture which has not yet been identified. However in the larger doses which are usually given in treatment in man there has clinically been no evidence of a therapeutic superiority of one form of penicillin over the other.

Fundamental points to be remembered in penicillin treatment are:

1. The organism must be susceptible to penicillin.

2. The organism must be reached by the penicillin in sufficient concentration.

3. The organism must be eradicated or suppressed.

SUMMARY

The status of penicillin in the treatment of cutaneous disorders, including syphilis, is in a constant state of flux, due to variations in the drug itself and even in the lots distributed by a single drug house, as well as due to the increasing reports of new studies.

1. Reports generally agree on the successful treatment with penicillin of abscess, actinomycosis, anthrax, carbuncles, cellulitis, coccogenic sycosis, ecthyma, erysipelas, erysipeloid of Rosenbach, folliculitis, furunculosis, hidradenitis suppurativa, infectious eczematoid dermatitis, impetigo, keratodermia blennorrhagicum, paronychia, pyoderma gangrenosum, syphilis, ulcers (infected), Vincent's angina, yaws and secondary infections in mycosis fungoides, kerion and dermatitis venenata.

2. Unsatisfactory results have followed treatment with penicillin of acne vulgaris, chancroid, dermatomysitis, eczema, granuloma inguinale and lymphogranuloma venereum, lupus erythematosus, pemphigus vulgaris, and psoriasis.

3. Outstanding advantages in the treatment of certain diseases are: absence of drug mortality, fewer adverse reactions than with metal therapy and some other drugs, vastly quicker results in certain treatments, fewer reports of sensitization than with many popular drugs, disability period greatly reduced below that of other treatment of local infections, and absence of deformity in certain cases formerly requiring surgery.

4. Regional injection method with penicillin in beeswax and peanut oil (POB) has proven successful by the writer in the treatment of carbunculosis.

5. Paralleling certain pioneer hospital and clinical studies for more than two years, the experience of this writer with penicillin in beeswax and peanut oil, in the treatment of certain cutaneous diseases, has been, even when limited to office practice, very satisfactory.

A study of 30 fairly typical cases of cutaneous infection reveals that doses of 150,000 to 300,000 units of penicillin in beeswax and peanut oil, given intramuscularly in single daily injections for one or two days gave gratifying results in nearly all cases. Most of the infections cleared in from one to four days as compared to much longer periods with similar cases treated with the customary drugs. There were fewer untoward reactions, less pain, reduced disability periods, little or no scar tissue, and less sensitization in most cases (approximately 5% or less). The success of the POB method of treatment indicates elimination of the serious disadvantage of hospitalization in many cases.

1630 Fifth Avenue

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CONTINUITY METASTASES

FRED HAMBRECHT, M.D.

and

E. A. CROWELL, M.D.

GALESBURG

Continuity metastases designates the spread of malignancy to contiguous structures by continuity. The treatment of this complicating condition is the subject of this paper.

It is axiomatic that cancer is curable by adequate surgery *as long as it is a local disease* and it is well known that the largest local growths are not uncommonly the more benign. The mere spread of such growths to adjacent resectable or excisable structures should not deter the surgeon's courage to attempt a radical excision providing distant metastases are not demonstrable. Speed today is not a prime factor. Careful,

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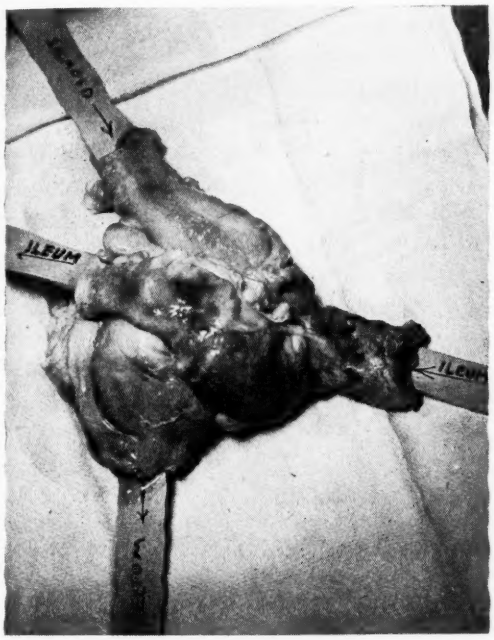

Figure 1. Adenocarcinoma of rectosigmoid junction with continuity metastasis to ileum and ileo-colic fistula. Patient a male, now age 73 living and well after resection.

accurate dissection without traumatizing tissue and meticulous hemostasis will reduce to a minimum the incidence of operative shock, and lower the morbidity as well as the mortality. The high tension, slap-jack, quick-in and quick-out surgeon who reperitonealized nothing and whose trust in God only arrested the lesser bleeders was the surgeon of the era of uncertain anaesthesia, the era when the surgeon's fear of the anaesthetist was only exceeded by the anaesthetist's fear of the surgeon. Today, on the other hand, anaesthesia is coming into more and more competent hands. Improved methods have made it possible to operate with the patient practically in a state of physiological sleep, and there is no excuse for unnecessary speed or the rough, high-pressure surgery of a few decades ago.

The operative time nevertheless in expert hands in massive resections of bowel, bladder and abdominal wall with or without contiguous solid organs or bone is of sufficient importance to deserve comment. In less expert hands it is of still more moment. One must be prepared to operate from one and one-half to five hours or longer when once he has committed himself to the task of an adequate radical excision of a lesion that has metastasized into adjacent structures.

Lahey, Sugarbaker, Brunschwig and others have recently reported cases of very extensive surgery in attempts to eradicate malignancy with continuity metastasis. The risk is, of course, greater in the gamble for a cure but to accept a defeatist's attitude and close without radical effort is abetting rather than contesting the malignant process. Until the time comes, therefore, when we have a simpler and less mutilating cure for malignancy, we must continue with radical surgical extirpation and extend further the frontiers of operability.

Needless to say, hypoproteinemia, vitamin deficiency particularly of B complex, C or K, anemia, and imbalance of electrolytes should be corrected preoperatively. The division of the surgery into stages, particularly in the aged and debilitated, is of prime importance. Preliminary or simultaneous transverse colostomy in resections of the sigmoid and upper rectum is recommended. "Short cuts" are tempting and brilliant when successful, but beware of them. We have regretted yielding to the temptation of primary sigmoid resection without adequate decompression of the anastomosis by large caecostomy or colostomy. Only in the unobstructed patients in good condition with the preoperative use of sulfasuxidine and meticulous aseptic anastomotic technique can the mortality of primary resection without colostomy or caecostomy be kept within four per cent limits; unless these ideal conditions are present it should not be attempted.

In the period from November 1, 1936, to February 1, 1947, fifteen patients have been operated on for malignant neoplasms with continuity metastasis. There were two deaths in the immediate postoperative period, an operative mortality of 13.3%. Three patients are alive and well for over five years since operation, one for four years, and two for three years. Five patients have survived for over a year and of these four show no evidence of recurrence or metastasis.

The ages of the patients varied from 49 to 81, the average age being 58.2 yrs. In this series there were ten female patients and five male patients.

The primary site of the neoplasm was the colon or rectum in eight cases, the stomach in

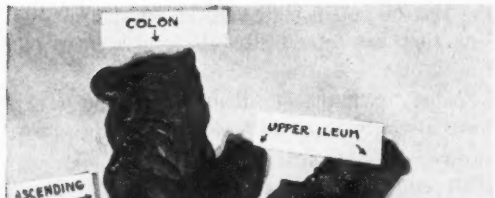

Figure 2. Adenocarcinoma of caecum with continuity metastasis to a loop of upper ileum, urinary bladder, abdominal wall and appendix. Patient female now age 84 living and well 4 years after massive resection.

three, the uterus in two, and the ovary in two.

Continuity metastasis to the abdominal parietes was present in five cases. In seven cases there was direct extension to an adjacent loop of intestine. The pancreas was involved in three cases and in four cases there was continuity metastasis to the bladder. Extension of the carcinoma by continuity to the uterus occurred in one case, the liver in one case and the prostate gland in one case.

Resections of adherent portions of the abdominal wall including the peritoneum, transversalis and internal oblique muscles do not produce troublesome herniation but only local weakness if it is possible to leave intact the external oblique. We have been able to preserve this structure in all of our cases.

Resections of the urinary bladder were treated by two or three layer closure with the insertion of an indwelling catheter per urethra for a period of 5 days. In no case was suprapubic cystostomy a part of the procedure.

The neoplasm was resected by a single stage procedure in twelve cases. In two patients a two stage operation was performed and in one a three stage technique was used.

Spinal anaesthesia was employed in all of the operations. Continuous spinal anaesthesia was used in eleven procedures, a single dose spinal was administered for eight. The anaesthetic agent was pontocaine weighted with dextrose in all cases but one in which novocaine was used.

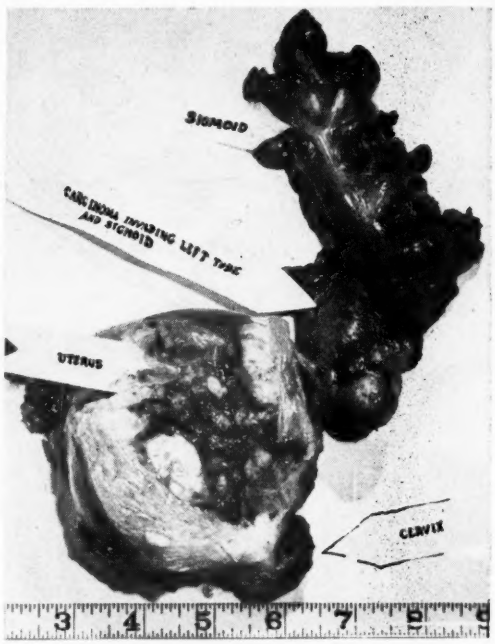

Figure 3. Adenocarcinoma of uterus with metastasis by continuity to left tube and sigmoid colon. Patient now age 61 living and well 3¼ years after resection.

The spinal anaesthesia was supplemented in seven procedures with the following agents: Ether-one, cyclopropane-one, sodium pentothal-three, nitrous oxide-two.

The anaesthetic problem in these prolonged procedures in our opinion deserves as much consideration as does the surgical technique. In the smaller hospitals, in which the most of us work, we are not all favored with expert physician anaesthetists who are capable of meeting all the surgical exigencies of narcosis; we do not have intravenous teams to appear on the instant of call. To cope with this situation we lean heavily on the nursing and resident personnel. In our opinion the *well trained nurse anaesthetist* is far superior to the *untrained physician* who gives only an occasional anaesthetic.

We have found the milder gases with curare to be quite satisfactory, but special mention should be made of continuous spinal anaesthesia administered by the catheter technique of Touhy. One of us (FEH) for ten years has used pontocaine weighted with dextrose to increase its specific gravity. Complete satisfaction has grown to enthusiasm. The initial dose of 18 to 20 mg.

of the drug* is supplemented at 50 minute intervals (in the average case) by the addition of four to six mg. per indwelling intrathecal catheter. Fall in the sensory anaesthesia level as determined by pin prick method to ascertain the need of additional anaesthesia has been found to be unreliable. Motor recovery with loss of relaxation and consequent loss of exposure and the patient's reaction to painful stimuli within the abdomen are more accurate indices of need of additional spinal anaesthesia. If the initial dose of 18 to 20 mg. of the drug is supplemented at 50 min. intervals by the addition of four to six mg. an adequate anaesthesia may be maintained for hours on end without intoxicating the patient. Prolonged inhalation anaesthesia often makes the recovery from the anaesthesia alone more stupendous than the recovery from the surgery. The extent of anaesthesia is regulated by using a weighted drug (one of higher specific gravity than the spinal fluid) and tilting the table in 20° to 45° Trendelenburg until the drug reaches the desired level. We wish to point out that in using this type of anaesthesia it must always be borne in mind that individuals vary greatly in the time it takes for the onset of anaesthesia and also in the rapidity of ascent of the anaesthesia level. The anaesthesia may be complete in five seconds after the Trendelenburg position is assumed or it may take 25 minutes. Failure to test immediately the anaesthesia level and check and recheck its progress could lead to bulbar paralysis and catastrophy. Consider all patients as "5 second spinals" until they prove themselves otherwise and this pitfall will always be avoided.

*One per cent solution of pontocaine.

For over sixty years it has been known that the tubercle bacillus is the cause of tuberculosis, and that it should be looked for in the sputum of patients with respiratory infections has become axiomatic. Notwithstanding this common knowledge, physicians very often lose valuable time treating tuberculous patients for colds, bronchitis, or asthma, and they may even have tonsils removed because of cough before a specimen of sputum is examined for tubercle bacilli. Henry D. Chadwick, M.D. and Alton S. Pope, M.D. The Modern Attack on Tuberculosis, The Commonwealth Fund, Revised, 1946.

THE MORE COMMON CAUSES OF FAILURE IN TREATMENT OF VARICOSE VEINS

JOHN R. MERRIMAN M.D,
EVANSTON
and
BERTRAM FITZGERALD, M.D.,
CHICAGO

A few years ago we were amazed at the number of patients whom we saw at our clinics at the Evanston and St. Joseph's hospitals and in the clinic at Northwestern University who had had many injections and ligations with very little if any improvement in their varicose condition. For that reason we thought it would be interesting to mention some of the causes of failure to produce good results. You are familiar with the distribution of the superficial veins in the saphenous system of the legs and the many communicating branches between these veins and the deeper veins. It therefore won't be necessary to take up your time in a review of the anatomy. The normal upward flow in the leg veins is aided by pressure of the arterial blood through the capillaries, by the pumping effect of the calf muscles as they contract on the deep veins while one is walking, and by the suction produced by breathing as a negative pressure is created in the chest during inspiration.

Before mentioning some of the causes of failure to produce good results in the treatment of varicose veins we wish to refresh your memories with a few rather generally accepted facts.

These veins become varicose because:

(1) Some people are born with a set of vein walls that are weaker in some sections and the back pressure of blood causes these veins to stretch so that the lumen may become several times larger than normal. Therefore the valves become useless and a vicious circle is established. The more stretching the worse the valves fit, and the worse the valves fit the more back pressure, therefore, the more stretching and so on.

(2) During infections where there is a bacteriemia there may be damage to the valves and to scattered areas of the vein wall. Here the weakened wall dilates slowly at first and more

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rapidly later because the valve function is lost.

(3) Mechanical pressure of abdominal tumors, pregnancies and ascites may dam back the blood enough to cause a break-down in the saphenous system. Varicose veins also develop during a pregnancy because the increased flow of blood into the common iliac veins from the uterus interferes with the flow from the external iliacs, also because of a disturbance in the hormones which permit the muscles of the vein walls, especially in the pelvis, to soften and to stretch.

(4) Thrombo-phlebitis must also be considered as a potent factor in the production of varicose veins.

The most commonly used treatment of varicose veins consists in the ligation as a first step and the destruction of these veins with some sclerosing solution as a follow-up. The theory of preliminary ligation is based on the fact that the flow of blood in any well-developed case of varicose veins is actually reversed and flows downward towards the foot, through the saphenous and back up the deeper veins. A high ligation in the proper place will cut off this reverse flow and must be done as the first step in advanced cases.

(I) Some of our failures are the result of improper diagnosis as to the source of the trouble. Seldom do we see a record of varicose veins in the calf originating from the lesser saphenous that comes directly off of the popliteal vein, but in our experience this condition is present in about one out of twenty cases. We have seen many patients who have had apparently good ligations in the saphenous and careful follow-up injections but the veins in the lower leg have promptly re-opened. If you look for this vein you can easily find it and avoid disappointment. Naturally, in these cases ligations in the long saphenous will be of no benefit. Once in a while the source of the trouble will be from the gluteal or pudendal branches or from any other veins in the leg. Even multiple ligations by surgeons with considerable experience in this field sometimes fail to cut off the back flow because they never seem to locate all the feeders.

(II) Some failures are the result of surgery that is done in the face of contra-indications.

1. At times there is no indication for either ligation or injection even though large varicose veins are present. These varicosities might be the result of an overload because of obstruction in the deeper circulation. If the leg is depending largely on the saphenous system for its return flow of blood it would be quite embarrassing to ligate it. A properly fitted elastic stocking or bandage is all that is indicated. This stocking should be tight enough to support the veins but not tight enough to constrict them.

2. The radical treatment of varicose veins during pregnancy does not seem to be justifiable. One can, however, at times give much relief and prevent the formation of an unsightly condition by the ligation or injection of a feeder vein into a rapidly forming burst. After delivery a more radical attack on the veins may be done.

3. Pelvis tumors or other mechanical obstructions to the venous flow are apt to cause failures if they are not removed before eradication of the veins is attempted.

4. Bursts of veins seen so frequently in the skin are not from the saphenous system and are not benefitted, but are often made worse by ligating the saphenous. In some cases they can be improved by injecting bubbles of a sclerosing solution or by electrical coagulation. To produce bubbles of a sclerosing solution one pulls the plunger of the syringe back about ¼ inch and gives the syringe a few rapid shakes. This will produce a froth that may be injected upward out of the needle. The reason for these bubbles is to dilute the solution for the concentrated solution is apt to cause a constricting spasm in these very small veins.

5. If phlebitis is present or has been present recently one is apt to stir up a bonfire by injection. The litigation proximal to the phlebitis often gives almost instant relief by cutting some of the sympathetic fibers and by preventing extension.

6. An infected varicose ulcer should be cleaned up for a few days by elevating the foot and applying suitable dressings. If one has the time it would be more safe to permit the ulcer to heal completely under the supportive treatment with an elastic bandage or to skin graft before destroying the viens. We have done a little preliminary work at the Medical school that

indicates that the ascorbic acid content in the stagnant blood in the veins around the varicose ulcers is much less than that in the free flowing blood taken from other veins. Keeping this in mind might help us to clear these ulcers up faster.

7. Some of the systemic contra-indications for ligation and injection are hyperthyroidism, active tuberculosis, anemia or any other debilitating disease, also acute infections especially those of the respiratory system.

(III) Failure in surgical technique of operation or incomplete follow-up may lead to disappointment.

A. If palpable veins with incompetent valves run up above the knee it is foolish to attempt to sclerose them without first ligating, for the back pressure from above will re-open them sooner or later. The injection treatment alone is seldom used except for the small veins. About 90% of patients with varicose veins will have a positive Trandelenberg; in other words will have incompetent valves. If one can elicit a percussion impulse up in the inguinal region where the saphenous joins the femoral, the saphenous should be ligated at this junction, care being taken to ligate also each of the several branches that usually enter near here. If ligation is not made above these branches and if they are not ligated and divided they will dilate in the next year or so and dump a column of blood into the lower leg that will either open up the sclerosed veins or dilate some smaller branches and spoil all the work previously done.

B. Some depend alone on a high ligation, but we prefer to add to this a ligation down near the knee below the last communicating branch with the femoral in the thigh. This takes only a few extra minutes and adds much to the assurance of a good result. As practical points we would like to remind you that when the patient is standing the veins may stick out like a sore thumb, but when lying down on the operating table they often can neither be seen nor palpated. To make it easier to find them always mark the skin at the point of intended ligation with some sharp instrument while the patient is standing. Sutures in an incision across the leg near the knee should not be removed in less than eight days unless the incision is well bridged with adhesive for this wound is apt to pull open. The veins ligated through this lower incision should be dissected at least one-half inch back from the skin edge so that the stubs that slough off will not be directly under the suture line, for a pool of serum may collect and break through the healed scar. This will do no special harm, but usually annoys the patient. In most cases we prefer to inject the saphenous with a cannula on the operating table for we believe that the quick obliteration of as much of the vein as can be done with safety is desirable. The slower destruction of the veins gives more time for the smaller communicating branches to dilate between injections especially if the interval is long. These may be the source of many recurrences. This more extensive obliteration is more uncomfortable but believe that it is worth it.

C. The trauma of dissecting down to and opening of a vein for a retrograde injection of a sclerosing solution will cause a spasm and narrow the lumen of the vein. This brings more of the solution in contact with the wall, thus producing extensive sclerosis. In other words the amount of solution you inject at the time of the operation will sclerose much more vein because of this spasm than when injected in the follow-up treatment in the office. Two cc. of sylnasol injected into the saphenous after it has been ligated above will usually sclerose the vein down to the knee while this same amount may sclerose only a few inches when injected later in the office.

(IV) Mistakes or accidents in the technique of injections and the material used may produce uncomfortable complications.

A. Naturally all the sclerosing solution should be deposited in the lumen of the vein. The bevel of the needle may be far enough in the vein to aspirate blood but not entirely in, so that some of the solution may be deposited outside the vein. Again if some of the solution is deposited in the vein wall or if the injection is made too fast a veinous spasm may pull the vein off the needle. If this is not detected at once you will deposit sclerosing solution outside the vein, therefore you must keep your eye on the needle at all times.

B. Some people are sensitive to the sclerosing solutions and get more reaction than others from a given amount. For this reason the first injection should be a small test dose of about one-half cc. Even this small amount may start an ascending thrombosis that will require an emergency li-

gation to prevent its entering the femoral. We have also had patients who developed allergic reactions after a rest period of several weeks to the solution that had formerly been used without a reaction. It is well, therefore, to start again with a test dose if there has been a lapse in treatment.

C. One may produce a severe arterial spasm in the extremity following ligation and retrograde injection of a large segment of the saphenous vein. Cases have been reported where a gangrene has resulted from such a spasm. It is well, therefore, to make certain that the arterial supply to the foot is adequate so that if a spasm is produced the result will be less disastrous.

D. If one nicks the wall of a vein in an attempt to inject it he may get a spasm that will close the lumen and make it impossible to proceed. If this happens one should not attempt another injection in this area for a few days for he is apt to fail again.

(V) Another very common mistake is made in the lack of proper follow-up and after treatment. Small veins that are not large enough to be noticed will dilate and veins that appear to be permanently sclerosed will re-open. Therefore, after you feel that no more injections are indicated the patient should be observed at first at least every few weeks and later every six to twelve months for a few years. This will keep the varicose condition well under control for small breakdowns can be injected before they become large. I know of no place where the old adage "a stitch in time saves nine" fits better than in the treatment of varicose veins. Any discussion of the end results and recurrences must take into consideration the pathology present in the varicose veins. It is essentially one of degeneration or the result of damage or injury that may have been sustained years before. If that process and those factors whatever they may be, are still active more varicose veins are bound to develop as time goes on.

take into consideration the pathology present

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TEST PILOTS OF JET PLANE REPORT MYSTERIOUS SICKNESS

The London correspondent of *The Journal of the American Medical Association* reports that some test pilots of jet planes have complained of a mysterious sickness. The correspondent also mentions a man, engaged in testing jet engines, who suffered from ear trouble. This has led to the suspicion that vibration and sounds inaudible to the human ear may have a serious effect on persons constantly in proximity to such engines.

The Ministry of Supply, a manufacturer of jet engines and aircraft and the acoustics laboratory of the Royal Aircraft Establishment have been conducting investigations, but so far there is no evidence of the existence of any occupational malady connected with jet engines.

The investigations, which are still under way, have not turned up any signs of supersonic sickness among the manufacturing firm's test pilots who have been flying jet-propelled aircraft.

The medical officer of the same jet company found, however, that test-bed employees who had worked continuously for 10 hours required two days to overcome their fatigue, while those working five hours recovered after one night's sleep.

STUDY PRODUCES NEW EVIDENCE ABOUT TRANSMISSION OF POLIO

Investigators Believe Virus From Throat Is Common Source of Infection In Transmission By Contact

Important new evidence concerning the transmission of poliomyelitis by personal contact is presented by four investigators in the December 6 issue of *The Journal of the American Medical Association.* The investigators are F. B. Gordon, M. D., and Frank M. Schabel Jr., S. B., from the Department of Bacteriology and Parasitology of the University of Chicago; Albert E. Casey, M. D., from the Birmingham Baptist Hospital in Alabama, and William I. Fishein, M. D., from the Chicago Health Department. Their work was done with the cooperation of Herman N. Bundesen, M. D., and the technical assistance of Margaret Abendroth, A. B., Chicago.

For some time it has been generally agreed that poliomeylitis is infectious only during a period that begins a few days before and ends a few days after the development of symptoms. Studies have also shown that the polio virus is usually found in the throat for only a short time after illness begins, but up to now much of the necessary evidence was lacking to establish a relationship between the period of infectiousness and the period when the virus is found in the throat. In only two cases had tests been made for virus in the throat *before* the development of the illness.

Material for more such tests was finally collected during a polio epidemic in Chicago during the summers of 1945 and 1946. Hundreds of apparently healthy children in the afflicted neighborhoods were visited, among them a number who had had contact with the sick children, before their illness. During daily visits throat and mouth swabs were taken both from the contacts and the non-contacts. As expected, poliomyelitis eventually developed in three of the children who had had contact with polio cases, and a similar study revealed a fourth such case. The mouth and throat swabbings taken from all four patients a short time before they became ill were then tested for the virus, and specimens from three of them produced polio in monkeys. Specimens prepared from the throat and mouth swabbings of a non-contact and of controls proved harmless.

"The laboratory studies make a strong case for virus from the pharynx as a common source of infection," the investigators write.

URETHANE PROVES TOXIC IN LEUKEMIA, PATIENT DIES

Urethane, a drug recently used with promising results in treatment of leukemia, sometimes called cancer of the blood because the white blood cells multiply too rapidly, is apparently more toxic in leukemia than is generally believed, John Joseph Webster, M. D., New York, warns in the December 6 issue of *The Journal of the American Medical Association.* He reports the second case in which a patient died after treatment with the drug.

Urethane, used chiefly in other diseases to relieve fever and spasms and produce sleep, has always been considered relatively safe and non-toxic. The first report of the effect of urethane in leukemia appeared in 1946. It revealed that the drug usually causes a decrease in white blood cells in this disease.

In the fatal case which Dr. Webster reports, the patient was treated with x-rays and later with daily doses of urethane. The drug was withdrawn because the patient developed complications, but he died within a short time — with his once-too-numerous white blood cells virtually non- existent.

"Urethane promises to be a valuable aid in the therapy of leukemia," Dr. Webster writes, "but the reports of untoward results warrant further investigation before widespread use is advocated."

Industrial Health

Committee On Industrial Health — Jos. H. Chivers, Chm., 836 S. Michigan Ave., Chicago 5. Frank P. Hammond, H. A. Vonachen, R. I. Barickman, C. O. Sappington, Milton H. Kronenberg.

The following reprints relating to the interpretation of nodular shadows in x-rays of the chest should be of particular interest to physicians in industry who are conducting mass x-ray surveys

J. H. C.

NODULATION WITH SUPERIMPOSED INFECTION IN LUNGS OF FOUNDRY GRINDERS AND BURNERS

Report of Four Unusual Cases

L. E. HAMLIN, M.D.

Medical Director, American Brake Shoe Company

CHICAGO

The origin of diffuse nodular shadows observed in roentgenograms of the chests of certain grinders and burners in the foundry and other industries has aroused considerable speculation in recent years. Those familiar with new developments in the field of occupational disease have become more cautious in diagnosing such roentgenograms, realizing that findings in numerous unrelated conditions may easily be mistaken for silicosis, especially when the person concerned had worked in an atmosphere which might have exposed him to dust. Unfortunately some general practitioners, industrial physicians and roentgenologists still insist on interpreting these patterns as first, second or third degree silicosis, regardless of the type of work or degree of exposure to respirable-sized particles of harmful dust to which an employee may have been subjected. The effect of such injudicious information is far reaching. It frequently results in unnecessary apprehension, financial loss and unjustified claims for disability.

In 1938 Sander and Enzer[1] described changes almost identical with silcosis in the pulmonary markings of electric arc welders whose occupations did not expose them to free silica but involved an atmospheric concentration of iron oxide sufficient to produce nodulation. Postmortem observation in 3 such cases demonstrated no evidence of silicotic fibrosis whatsoever. The changes in the lungs consisted solely of deposits of inert iron pigment in the lymphatics which were not productive of symptoms or disability. Reports from other sources in this country and abroad have confirmed these observations. McLaughlin, Grout, Barrie and Harding[2] in 1945 described similar findings in 4 silver finishers exposed to pure iron oxide dust from rouge. They found no fibrosis in the lungs and stated that a worker who has inhaled radiopaque dusts may have a roentgen picture of the lungs simulating early silicosis, miliary tuberculosis or other pathologic conditions and yet have no obvious physical disability. Pendergrass and Leopold,[3] also in 1945, reported 11 cases of siderosis in grinders resembling those observed by Sander and Enzer. Harding[4] in January 1945 portrayed roentgenographic stippling or fine nodulation of the lungs produced in rats by intratracheal injection of rouge (ferric oxide), which caused no detectable fibrosis over a period of eight months. Buckell, Garrad, Jupe, McLaughlin and Perry,[5] in 1946, performed roentgenographic examinations of the chests of 171 iron turners and grinders (138 men and 33 women) exposed to dust in iron turneries in England. Changes in the lungs in the form of reticulation due to iron oxide were present in 15 persons. Five of these persons had been working in this occupation for more than twenty years. The changes were not gross and few

symptoms were noted. Only 1 man complained of shortness of breath, though 6 stated that they had some cough. Dust from rafter samples contained 37.1 per cent metallic iron and 23.3 per cent iron oxide. The total silica content was 5.4 per cent and the silicate residue 1.3 per cent.

In November 1945 my colleagues and I reported[6] atypical nodulation in 68 foundry grinders and burners, observed over a period of eleven years, whose roentgen patterns, clinical aspects and occupational exposure were inconsistent with the present conception of silicosis. In this group, unlike the cases described by Sander and Enzer, the men were known to have had some exposure to free silica, although repeated sampling of air-borne dust revealed the concentrations to be within safe limits. The composition of the dust before fractionation was as follows:

	Sample 1, Percentage	Sample 2A, Percentage
Total SiO_2	6.5	8.9
Free SiO_2		
Quartz	3.1	3.9
Cristobalite	0.1	0.3
Tridymite	0.0	0.0
Fe_3O_4	73.2	67.4
Mn	5.9	7.8
Corundum	1.5	4.1
Carbonates	trace	trace
Rutile (titanium dioxide TiO_2)	trace	trace
Loss on ignition	6.2	3.2

The high iron content of the samples of air, the relatively low percentage of free silica with negligible amounts of the most active forms cristobalite and tridymite, together with the lack of significant clinical findings, did not seem to constitute a definite hazard, certainly not enough to produce the rapidly developing nodulations observed in some employees' roentgenograms. If the markings were due to iron pigmentation, however, there appeared to be enough iron oxide present in finely divided form to cause it.

Early in 1945 we inaugurated an experimental study on the effect of air-borne grinding dust on laboratory animals under the direction of the late Dr. L. U. Gardner at the Saranac Laboratory, Saranac Lake, N. Y. An interim report after eight to ten months' exposure indicates that while faint diffuse dust pigmentation exists grossly in the lungs of guinea pigs and white rats, microscopically only scattered inactive dust cells appear without evidence of fibrosis. Roentgenograms of the chests of rabbits exposed to inhalation of dust for the ten month period were essentially normal. In animals infected experimentally with tuberculosis, the spread of the disease was not accelerated by the inhalation of this dust during an eight month period.

It is emphasized that these observations are only preliminary. The studies are continuing, and a complete report will be made after there has been sufficient exposure to demonstrated valid results. The tentative assumption that this dust causes reaction similar to that seen in exposures to other inert dusts is of definite interest in this presentation.

One of the well established facts about silicosis is its tendency to provide a fertile field for the development of tuberculosis. While this is undoubtedly true, some observers feel that in certain instances its importance may have been overemphasized. Dayman, however, in June 1946 published case reports on 4 persons as evidence that silicosis can exert a harmful effect on resistance to tuberculosis even when generalized pulmonary fibrosis due to free silica is so slight that evidence of it is meager or entirely lacking on technically satisfactory roentgenograms.

Observation of grinders and burners in the foundry industry under discussion reveals a very apparent lack of clinical symptoms and absence of conglomerate shadows in the roentgenogram. The incidence of tuberculosis is low and progression of infection, when it does appear, is not impressive. These employees seldom complain of shortness of breath, the cardinal symptom of silicosis, even though the roentgenogram reveals definite evenly distributed, fine nodulation. Stippling may appear after comparatively short periods of exposure, two to six years in some cases, but when once established there is little change in subsequent roentgenograms in spite of the fact that the occupational environment has not changed appreciably.

Consideration of the evidence accumulated up to the present provides substantial reason for the belief that the roentgenographic observations in this group of workers represents siderosis and not, as it is still being diagnosed, silicosis.

The following cases are presented to support this view and to demonstrate the unusual course of superimposed infection in the presence of nodulation hitherto presumed to be silicotic.

REPORT OF CASES

Case 1.—T. J. P. operates a grinding lathe in the machine section of the plant where large manganese steel castings ranging from 500 pounds (227 Kg.) to several tons in weight are ground sometimes to tolerance of 0.002 inch (0.0508 mm.). Vitrified abrasive wheels are used, and the point of contact is kept wet with water containing a soluble oil. The employee has worked on this particular job for thirty-one years without losing time except for a period of two weeks about twenty-three years ago, with what was diagnosed as pleurisy. Two years ago he had a hernia repaired and was away from work for two months. The operation was performed with the patient under local anesthesia, and no symptoms referable to his lungs occurred. Other than these two periods he has never lost a day's time because of illness. He states that he "feels like a million." His appetite is good and he has no discomfort following meals except occasional spells of mild indigestion.

Examination revealed a well developed, well nourished white man, 55 years old. He presented a healthful, robust appearance. His height was 6 feet 1 inch (185.4 cm.) and he weighed 220 pounds (99.8 Kg.). Blood pressure was 130 systolic and 90 diastolic. There was no evidence of disease of ear, nose or throat and no enlargement of the thyroid gland. Examination of the heart indicated no disease. The pulse rate was 80 per minute, regular and of good volume. The chest was symmetric, breath sounds were normal throughout and there was no other manifestation of disease. The remainder of the examination revealed no abnormality except for a rather large, easily reducible, recurrent inguinal hernia on the left side which appeared to be adequately controlled by a truss.

Roentgenograms of the chest were made for this worker in 1933, 1934, 1936, 1942, 1943, 1944, 1945 and 1946. The roentgenogram made in 1933 showed evidence of rather extensive nodulation throughout both pulmonary fields, with mottling, interpreted as tuberculous infestion, involving the entire upper lobe of the right lung. The diagnosis at that time was first degree silicosis with active infection. A roentgenogram in 1934 was interpreted in a similar way with the addition of suggestive cavitation. In 1936 the roentgenogram showed considerable clearing of the condition in the upper lobe of the right lung, the dense mottling being replaced by hard linear shadows. By 1942 not much change was noted except that there seemed to be slightly more fibrosis of the infection with perhaps more accentuation of the nodulation. Subsequent roentgenograms, including stereoscopic views in 1946, demonstrated gradual clearing of the infection and replacement by a linear scar. This change occured while the man was continuously subjected to the same dust exposure. A Vollmer patch test done recently resulted in a definite positive reaction. Three successive examinations of concentrated sputum were negative for acid-fast bacilli.

The course of the infection in this case is contrary to the usual progression of tuberculosis, assuming that the nodulation observed in the roentgenogram is due to silicosis. On the other hand, it is compatible with siderosis.

Case 2.—F. M. finishes rough manganese steel castings weighing from 500 to 10,000 pounds (4,535 Kg.). The work is done with a swing frame grinder (fig. 2) and the employee has worked on this same job for the past thirty-four years. He has had no other occupation. He has no complaints and states that he feels well.

Physical examination revealed a well developed white man of 64 years, 5 feet 10 inches (177.8 cm.) tall, weighing 170 pounds (77.1 Kg.). His temperature was 98.6, pulse rate at rest was 76 per minute, after exercise was 96 per minute and two minutes later was 76. The systolic blood pressure was 158 and the diastolic 80. There was some enlargement of the turbinal bones, also pyorrhea and dental caries. Examination of the heart and lungs revealed no abnormality. No other significant physical defects were noted except an enlarged inguinal ring on the right side and superficial varicosities on the left leg.

Roentgenograms of the chest were made in 1933, 1934, 1936, 1942, 1943, 1944, 1945 and 1946. Nodulation was evident in the first three of these and was diagnosed as uncomplicated silicosis. The 1936 roentgenogram suggests an area of beginning infection in the upper paravertebral area of the left lung. In the 1942 roentgenogram this was definite as a circumscribed density. Subsequent annual roentgenograms show no change except that possibly the shadows are slightly more dense and circumscribed. No change has occurred in the nodulation.

A Vollmer patch test was done recently which elicited a postive reaction. Concentrated sputum on three successive days was negative for acid-fast bacilli.

In this series of roentgenograms, a shadow strongly suggestive of developing tuberculous infection appeared on a background interpreted as silicotic and has remained constant over a period of ten years in spite of continuous exposure.

Case 3.—P. J. H. worked in a coal mine for six years before coming to his present location. He was employed as a burner at this plant for thirteen years. The operation consisted of burning off gates, fins and other projections on unfinished castings with an acetylene torch. On occasions he also did some welding on small surface defects. The castings were usually placed on the floor (fig. 4) so that the blast from the oxyacetylene torch stirred up accumulated dust along with fume from the operation itself. Be-

cause of the roentgen findings, he was put at outside working driving a truck and has not been exposed to dust for the past four years. He gives a history of pneumonia on two occasions, the last attack occurring in February 1942. In March 1943 he was operated on for an inguinal hernia on the left side and in February 1946 he suffered an acute infection of the respiratory tract, which cleared up without complications. He has gained weight and states that he feels better than he has for years.

Examination disclosed a white man of 60 years, 5 feet, 7½ inches (171 cm.) in height, weighing 153 pounds (69.4 Kg.). The systolic blood pressure was 165 and the diastolic was 90. His temperature was 98.6 F., his pulse rate 70 per minute and his respirations 14. The lower teeth were in poor condition but the upper teeth were replaced by a denture. Examination of the heart revealed no evidence of disease. The breath sounds were roughened but otherwise the lungs were normal. The remainder of the physical examination showed no significant abnormalities.

Roentgenograms of the chest were made in 1934, 1942, 1943, 1944, 1945 and 1946. The 1934 roentgenogram showed a diffuse nodulation without evidence of infection. This was classified as first degree silicosis and was reclassified to second degree nodulation in 1942. Some mottling in the upper lobe of the right lung was noted at this time, and tuberculous infection was suspected. In 1943 the same condition was again observed and was rechecked with stereoscopic roentgenograms. Subsequent roentgenograms have shown no change except more organization of the infection.

Samples of sputum taken every other day for six occasions were all negative for acid-fast bacilli. A patch test and also two intradermal injections of old tuberculin (0.1mg. and 1.0mg.) gave negative results. The blood sedimentation rate was 2 mm. per hour. The Wassermann and Kahn reactions were also negative.

The similarity of the roentgenographic observations in this case and in the preceding one are rather remarkable. Both employees work in the same industry, although their specific jobs are different. They have been employed at separate locations which are over 1,000 miles (1,600 kilometers) apart, but the operations in both plants are the same, so that both men have had similar types of dust exposure. The negative reactions to the tests for tuberculosis in this case suggest that the shadows observed in the roentgenogram are not caused by the tubercle bacillus. This again emphasizes the need for careful evaluation of all the clinical data before making a positive diagnosis in any case demonstrating evidence of occupational fibrosis. The fact remains however, that a condition suggestive of infection which developed on a nodular background has remained relatively stationary for the past four years, an event which is not consistent with the usual course of silicotuberculosis.

Case 4.—J. W. works in a different plant from the men in the preceding cases. His job consists of grinding gray iron castings which are rather free from sand, so that his actual exposure to free silica has been negligible. There is considerable dust containing fair amounts of iron oxide in the atmosphere. This employee has been in the same location as a chipper and grinder for thirty-six years. At the time of his examination he stated that he did not "feel any too well" and complained of some cough and shortness of breath. His appetite was good, however, and he had not lost weight.

Physical examination showed a white man 63 years who did not appear ill. He was 6 feet 1½ inches (187 cm.) in height and weighed 175 pounds (79.4 Kg.). His blood pressure was 114 systolic and 64 diastolic. His temperature was 99 F., his pulse rate 68 and respiration rate 14 per minute. The pulse was regular and of good volume. It increased to 96 after exercise and returned to 72 after two minutes' rest. Examination of the chest showed no evidence of cardiac disease and the lungs were normal except for a small area of decreased resonance in the left intraclavicular space. There were no other abnormalities noted with the exception of small superficial, bilateral varicosities. The employee's weight of 175 pounds at this examination, however, represents a loss of 10 pounds (4.5 Kg.) since 1944.

Roentgenograms of the chest were made in 1933, 1934, 1936, 1939, 1943, 1944, 1945, 1946 and 1947. In 1933 the roentgenogram was interpreted as first degree silicosis with infection, presumably tuberculous, in the upper third of the right lung. No pronounced change was noted in succeeding roentgenograms until 1939, when infection appeared in the upper lobe of the left lung. By 1943 the infection in the upper lobe of the right lung was more diffuse with a more characteristic appearance of pleural thickening, while the mottling in the upper lobe of the left lung suggested some increase in the pathologic process. Subsequent roentgenograms in 1945, 1946 and 1947 have shown no definite change except possibly some slight increase in density of the shadows previously noted.

As a result of the abnormalities noted in earlier roentgenograms, this employee was examined very thoroughly by several competent specialists, all of whom were agreed that the shadows in the roentgenograms represented tuberculous infection. The man was approached about entering a sanatorium and was strongly urged to to do, both by management and by his family physician. He stated that he felt quite well and did not want to enter a sanatorium and could see no adequate reason why he

should. He has continued working under observation since that time and has been a steady, uncomplaining producer.

Recently a Mantoux tuberculin test elicited no reaction to first strength purified protein derivative, but a slight positive reaction was obtained with the purified protein derivative of second strength.

The roentgen observation in this case again failed to demonstrate the anticipated course of infection in the presence of silicosis.

SUMMARY

Findings in the roentgenograms of the chests of 4 employees in the foundry industry are presented to demonstrate the unusual course of suggestive tuberuclous infection in the presence of nodulation hitherto presumed to be due to silicosis. The progress of the disease is inconsistent with the usual picture of tuberculosis superimposed on silicosis, both from the clinical and from the roentgenographic aspects. Occupational exposure as demonstrated by industrial hygiene surveys in the plants where these roentgen patterns were produced does not appear to be adequate to produce the extensive nodulations observed but does seem to be sufficient to cause siderosis. The unorthodox behavior of both infection and nodulation, in spite of continuous exposure, substantiates the impression that the roentgenographic appearance is the result of the deposition of iron pigment (siderosis) rather than reaction in pulmonary tissue due to contact with free silica.

Reprint from Occupational Medicine — July 1947

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2. McLaughlin, A. I. G.; Grout, J. L. A.; Barrie, H. J., and Harding, H. E.: Iron Oxide Dust and the Lungs of Silver Finishers, Lancet 1: 337-341 (March 17) 1945.

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4. Harding, H. E.: Radiographic and Histological Appearances of the Rat Lung After Intratracheal Injection of Rouge (Ferric Oxide), Brit. J. Indust. Med. 2: 32-35 (Jan.) 1945.

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MISINTERPRETED CHEST LESIONS

Combating tuberculosis involves periodic mass examination to detect unsuspected or incipient cases, and in factories, large offices, and schools — wherever, in fact, large numbers of people could be mobilized for such checking — the practice has been fruitful in finding cases and saving lives. To speed the task of screening a thousand children in a public high school or a stream of job applicants in a plant, simple tuberculin tests have been applied. The most familiar test involved injection of tuberculin beneath the skin; a later test pressed a patch of tuberculin-saturated filter paper against the skin under adhesive tape; either test would presently produce an allergic red mark on the skin of persons whose further examination was indicated. More recently X-ray devices have been improved for use in mass screening; they swiftly make small films of the chest and have the advantage of providing a record useful sometimes for later comparisons. They make clear disclosures of any calcified lesions in the lungs and such lesions have been regarded as an indication of tuberculosis, already healed or otherwise.

The recent tremendous increase in the use of X-ray examinations in the search for hidden cases among both civilians and military populations has gradually brought out new and unexpected facts: the number of people with pulmonary calcification varies widely in different sections of the country — 27% in Ohio, 83% in Tennessee; it is apparently very high in Missouri, Wisconsin, Illinois, Kentucky, Mississippi, Arkansas and Louisiana. And its frequency runs far out of line with the actual incidence or local death rates of tuberculosis! In one study of lesions found by X-ray, over one-half were negative to tuberculin. Indeed, there are areas with a high incidence of calcified lesions which show a low death rate from tuberculosis and vice versa. Numerous cases, rated as tuberculous by the x-ray, have proven to be negative upon further examinations including the tuberculin test.

Such discrepencies led to search among the other known causes of calcified lesions and a disease called histoplasmosis is now indicated if not yet convicted.

Until recent years histoplasmosis was a word familiar only to a limited group of physicians.

It is the name of a supposedly rare and fatal disease reported in only a few instances in this and other countries.

There are now indications that histoplasmosis in a benign form may be quite widespread, causing, or related to, certain calcified lesions hitherto assumed to be tuberculosis. The disease is caused by a fungus from which can be made an extract, histoplasmin, which, in turn, can be produced and used as a testing material like tuberculin. Histoplasmin for tests is not yet on the market but enough has been used to reveal that numerous people with calcified lesions are tuberculin-negative and histoplasmin-positive. The logical hypothesis is not yet established but confirmatory epidemiological statistics have been accumulating.

Confidence of industry in the value of mass case-finding for tuberculosis should continue; the above findings merely emphasize the familiar fact that if X-ray is used as the first step in case-finding for tuberculosis, persons found with calcified lesions should not be labeled as having tuberculosis without further diagnostic evidence.

Reprint from *For Instance*, published by American Cyanamid in March, 1946.

PULMONARY CALCIFICATIONS

Additional evidence is now available to support the concept of etiologic relation between nontuberculous benign pulmonary calcifications and a benign form of histoplasmosis. Zwerling and Palmer[1] report a study of pulmonary calcifications made as a cooperative project by the National Tuberculosis Association, the United States Public Health Service and a number of schools of nursing. Histoplasmin and tuberculin skin tests and roentgenograms were available for 6,199 student nurses in eight large cities. The incidence of calcification closely paralleled a positive reaction to histoplasmin; such a parallel with positive tuberculin reactions was not apparent in the material studied. Pulmonary calcification was found in 698 nurses, of whom 494 were histoplasmin positive, 109 had positive reactions to both tuberculin and histoplasmin, 57 were tuberculin positive and 38 had negative reactions to both histoplasmin and tuberculin. Geographically the incidence of calcifications varied widely. Four times as many student nurses in Kansas City, Mo., showed calcification as in Philadelphia, and more than four times as many were sensitive to histoplasmin. An attempt was made to differentiate between calcification presumably due to tuberculosis and that presumably due to histoplasmosis, but any characteristic feature of the lesions was noted which would be of value in determining the etiologic factor. Occasionally, instances of scattered multiple bilateral calcification, including the miliary type, were seen. Since it was impossible to distinguish between the calcification, the authors infer that the roentgenographic appearance of the begnign form of histoplasmosis can resemble tuberculosis during the active phase of the infection. The recovery of the tubercle bacillus and consideration of the tuberculin reaction were therefore considered essential for the final diagnosis of pulmonary tuberculosis. Infection with the fungus Histoplasma capsulatum probably is widespread and, although usually benign, may be responsible for most instances of scattered multiple bilateral calcifications.

From a study of 1,457 American Indian children following tuberculous infection. High and Zwerling[2] concluded that the frequency with which calcification develops in tuberculosis varies directly with the age at which the tuberculous lesions begin. Calcified pulmonary foci were found most frequently during the second and third years after the lesion was first observed. In the youngest age group (under 5 years of age) calcification followed tuberculosis in 76.5 per cent of the cases. The rate declined progressively in older children, and calcification was present in only 2.4 per cent of the cases in which the onset of tuberculosis was between the ages of 15 and 19.

High, Zwerling and Furcolow[3] reviewed 113 cases of disseminated pulmonary calcification collected from various sources, mostly midwestern school children and student nurses, in whom at least five calcareous deposits were noted in each lung field. Of the 108 patients who received tests with tuberculin and histoplasmin, none reacted to tuberculin alone, but 93.5 per cent of them reacted to histoplasmin; only 4 did not react to histoplasmin.

From the Fels Research Institute, Sontag and Allen[4] report a study of 200 normal south-

western Ohio children. Chest roentgenograms were made on most of them one month after birth and every six months thereafter for the first two years and at yearly intervals from then on. They came from all economic levels and from all types of homes. The serial roentgenograms made possible not only a diagnosis of the presence or absence of pulmonary calcifications but a study also of the progressive changes in the lung from the time of the initial lesion throughout the period of calification. The children were physically examined every six months and were tested intradermally with purified protein derivative of tuberculin and histoplasmin; if both tests were negative when pulmonary calcifications were present, the child was tested with blastomycin and with extract of Haplosporangium parvum. Of 170 children 1 year of age or older, 15.3 per cent reacted to tuberculin and 44.7 per cent to hisatoplasmin. Thirty-three of the 103 with pulmonary calcifications reacted to neither tuberculin nor histoplasmin. Two of the 33 reacted positively to blastomycin and to haplosporangin. The infection which produced these calcifications certainly occurs often at an early age. In 9 cases in this series the soft tissue changes were present as early as 10½ months of age. The calcification itself often appeared early; it was apparent in 9 children in the first twenty-four months of life and in 45 at or before the age of 4 years. These studies strongly support the hypothesis that pulmonary calcifications very frequently are caused by whatever agent produces sensitivity to histoplasmin, at least in some parts of the United States.

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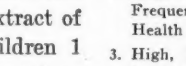
Reprint of Editorial from the November 15, 1947 issue of the Journal of the American Medical Association.



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Council Meeting Minutes

MEETING OF THE COUNCIL, DECEMBER 7, 1947

The regular December meeting of the Council was held at the Palmer House, Chicago, on Sunday, December 7, 1948. Those present were Irving H. Neece, Percy E. Hopkins, L. J. Hughes, Darwin B. Pond, Oscar Hawkinson, Leo P. A. Sweeney, Harry M. Hedge, Wade C. Harker, Charles P. Blair, Ralph P. Pearis, Walter Stevenson, Charles H. Hulick, Charles O. Lane, Harlan English, G. C. Otrich, James H. Hutton, Robert S. Berghoff, Roland R. Cross, Frederick H. Falls, John A. Rogers, Mr. James C. Leary, Mr. John W. Neal, Raleigh C. Oldfield, Maurice M. Hoeltgen, Edwin S. Hamilton, Harold M. Camp and Frances C. Zimmer.

There being no alterations or corrections, the minutes of the last meeting were approved as mailed to the members.

The Secretary read his report outlining the proposed codification of Illinois laws pertaining to health and medical care and its subsequent publication and distribution to all members of the society. Reference was made to the meeting of the Committee on Scientific Work and the tentative plans for the 1948 annual meeting programs, all of which are subject to Council approval. It is planned to have three full days of general assembly programs scheduled, and no scientific meetings of individual sections. An executive committee was selected from the section officers to assume responsibility for lining up the programs with each section officer submitting proposed speakers and subjects for their final approval. Other matters relative to the annual meeting were presented.

Dr. Neece reported as President telling of many meetings he has recently attended in his official capacity. One of these the annual meeting of the Medical Society of Wisconsin. A letter had been received from the Executive Secretary of the Illinois Nurses Association relative to a special committee selected to aid in the recruitment of student nurses, this in cooperation with the American Hospital Association. They request that a member of this Society be selected to work with their committee.

Dr. Hopkins reported as President-Elect, telling of recent meetings he has attended, including two post graduate conferences where he and the Secretary discussed the Illinois Plan for Pre-payment care program which is now in operation. He believes this subject should be presented at all of the conferences, and recommends that they be scheduled as a part of the afternoon program, rather than in the evening.

Stevenson, as chairman of the Council stated that he would report later on recommendations of the executive committee which met the previous evening.

REPORTS OF INDIVIDUAL COUNCILORS

Harker told of the confusion on the part of physicians who have received invitations to join several new organizations which have been recently organized, and recommended that inquiries on the subject be withheld until after the Interim Meeting of the A. M. A. in January, where no doubt some consideration will be given to these groups, and their functions.

Blair stated that physicians in his district were interested in the prepayment care plan, and have asked many questions on the subject.

Peairs and Hughes reported on the post graduate conferences held recently in their respective districts, at Lincoln and Rockford. Told of the increasing interest in these conferences and would like to see them continued in coming years.

Falls told of the plan under consideration to study maternal deaths in the down-state areas, this already being done in Cook County. This to be done under supervision of his Committee on Maternal Welfare, if approved by the Council.

Cross reported as Director of the State Department of Public Health giving a summary of his progress report which recently appeared in the Illinois Medical Journal. He discussed the increasing interest in county health units, cancer diagnostic centers, the proposed tuberculosis hospitals to be

built at Mt. Vernon and Savanna, premature stations at Peoria and Springfield, and several other projects under way in his department.

Blair reported as chairman of the Educational Committee, telling of recent activities. Increasing duties of the office in Chicago were stressed. The Society exhibit was exhibited at the National Farm Show, where much interest was manifested. The brochure "Horses and Doctors" was passed out to the farm groups, especially teen age boys and girls who were very much interested. Another brochure was developed "The Doctor and His Medical Society" which is proving quite popular, and there is an unusual demand for these brochures. By proper action, the report was approved.

Berghoff reported as Councilor at Large, and as Chairman of the Scientific Service Committee and the Committee on Post Graduate Services. Referred to the tuberculosis hospitals to be constructed down state and also the one of 500 beds to be erected in Chicago; the site recently selected for the matter being in the newly created medical center on the West Side where ample acreage has been assigned. Referred to the increasing demands for services on the part of component societies for speakers and aid in setting up their programs. Also the increasing interest in post graduate conferences, 12 of which are scheduled for the fiscal year with the place and date selected now for the remaining six during the year. Discussed proposed changes in the manner of conducting these conferences.

Hedge reported as chairman of the Journal Committee, telling of the sending out to some 18 or 20 printing concerns, copies of the Journal and informative data in the solicitation of bids for printing for the coming year. Most concerns unwilling under present conditions to take more jobs, and the committee recommended the Wayside Press at Mendota, the printers of the journal during the past 8 years. The contract has been awarded.

Hutton told of the selection of the winners of the awards for the best scientific articles published in the Journal from July 1946 to June, 1947. The award for the best written article from a literary standpoint was given, then as there was a tie for the paper reporting outstanding original work, the Council was requested to authorize duplicate awards. The winners and subjects will be announced in the January Illinois Medical Journal. Hutton told of the work of the Committee on Medical Service and Public Relations, and of their recent meetings. A group of principles has been approved which will be ready for distribution soon.

Hopkins reported as chairman, Voluntary Prepayment Care Plans, referring to two recent meetings of committee with representatives from insurance companies in the endeavor to get additional companies interested in the plan and to submit policies meeting the requirements for approval. Several large insurance companies now preparing their policies and will no doubt have same approved in near future. Hopkins also reported as chairman of Medical Advisory Committee to Veteran's Administration, telling of recent meeting in Chicago with Gen. Paul R. Hawley present. Seems advisable to renew contract for care of veterans with service connected disabilities for the year ending June 30, 1948. By proper action, the officers of the Society were instructed to submit the signed contract to Veteran's Administration.

Neal stated that the new principles referred to by Hopkins would be sent to a list of large insurance companies, the list being prepared and a number of these had been writing to see how soon their policies could be submitted. Believes present principles are excellent, and in keeping with present day trends along this line. Desires to send legislative men, state and national, from Illinois, the two brochures distributed at the National Farm Show. Permission given, by proper action.

Hawkinson discussed plan for building up the medical benevolence fund. Told of unusual interest of his branch society, and their efforts to get subscription from every member. The response to date was reported. Number of recipients gradually increasing, and he believes this one of the highly important projects, this one helping the doctor himself, or members of the family of former members. Urges other councilors to stimulate drive for subscriptions to the fund in all parts of the state.

By proper action, Mr. John W. Neal was selected as general counsel for the Society for the next year.

Oldfield reported progress, as chairman of the Committee on Arrangements for the 1948 annual meeting. His committees have been selected, and are being notified of their appointment, as well as their respective duties. Gives assurance of his desire to do everything possible to make this annual meeting a highly successful one.

Hoeltgen, as vice-chairman, also stated that he desires to render all possible cooperation likewise, and he approves the recommendations of Dr. Oldfield, as well as his appointments to committees.

English reported as chairman of the Committee on Rural Medical Care telling of recent activities, and of meetings with the Illinois Agricultural Association. Reported the proposed plan to develop a loan fund, in cooperation with the A.A.A., both groups to select three members of a joint committee to aid in providing medical education to native born boys, especially in the Southern part of the state. They should be ready to enter medical schools, be approved by their respective Farm Bureau and County Medical Society, then given a loan to finance their actual medical education.

There should be no loss to the Society, as the loans will be made at a low rate of interest, and the boys agree to return to their native counties to practice until the loan is repaid. A contract, legally

drawn up has been prepared, and was submitted to the Council for approval.

Motion, English-Hamilton-Blair; that the Illinois State Medical Society cooperate with the Illinois Agricultural Ass'n in the establishment of a medical student fund for native county born boys to study medicine in an approved medical school in the amount of not more than; $2,000.00 the first year; $4,000.00 the second year; $6,000.00 the third year; $8,000.00 the fourth year to a maximum of $50,000.00 over a ten year period between 1948 and 1958. Motion carried. It was brought out in the discussions that with the repayment of the loans, this could be made a program to be carried on if needed over a long period of time without additional appropriations.

John A. Rogers, as Director of the Illinois Division, American Cancer Society told of their plan to have conferences throughout the state on diagnosis of cancer, these preferred to be scheduled in all councilor districts, and they desire to have the cooperation of individual councilors and component county medical societies. All expenses to be paid by the Cancer Society. Asks the councilors to aid in determining the best city in the districts for these conferences. They desire to cooperate fully with the State Medical Society and ask approval of the plan, and assurance of a desire to cooperate on the part of the councilors and the Society as a whole. This project was previously presented to the Council, and approved with the request that the Society Committee on Cancer Control of which Warren H. Cole is chairman, aid in arranging the Conferences.

Dr. Rogers was assured that the project was approved by the Council and that the services of the individual councilors, the Educational committee Scientific Service and Post Graduate Committees would cooperate in making the necessary arrangements. It was decided that a letter would be sent immediately to the Councilors, county society secretaries and chairmen of the cooperating committees, giving the information and expressing the desire that they give full cooperation to the proposal.

Dr. Pond reported as chairman of the Advisory Committee to the Womans Auxiliary, telling of their recent activities, and their desire to render all possible assistance in the medical benevolence fund drive, the collection of historical data for the Society, and would welcome additional responsibilities at any time. Plans for their annual meeting were discussed and they were assured that deficits incurred from the meeting, would be paid by the Society, as has been done in the past.

Motion; English-Sweeney, that John W. Neal be authorized to prepare a codification of Illinois laws pertaining to health and medical care. Motion carried. Motion; Hedge-Neece that Council approve actions taken by Committee on Scientific Work, relative to scientific programs for 1948 annual meeting. Motion Carried. Motion; English-Lane, that list of candidates for Emeritus and Past Service Membership as presented by Secretary, be approved and usual certificates and/or/cards be issued. Motion carried.

Bills as audited by Finance Committee approved by proper action. (English-Lane). Council adjourned to meet in regular session January 18, 1948.

Harold M. Camp, M.D.
Secretary

The basis for the concerted Scandinavian mass BCG vaccination is the importance tuberculosis plays even today as an endemic disease — the commonest chronic disease in people between 15 and 30 years. Approximately 50 per cent of this age group do not react tuberculin. These non-reactors have proved more susceptible to progressive tuberculosis disease when infected than those in whom a positive tuberculin reaction indicates a previous infection. Konrad Birkhaug, M.D., Am. Rev. Tbc., Mar., 1947.

Cincinnati may be able to claim credit for having been the first American city to make tuberculosis a "reportable" disease. The distinction now is claimed by both Boston and St. Louis. . . . In the annual report of the (Cincinnati) Health Department for 1897 is a copy of resolutions adopted by the Board of Health requiring physicians to report all cases of tuberculosis. This action is believed to antedate similar action in Boston and St. Louis. Ohio Pub. Health, Oct., 1947.

News of the State

PERSONALS · COMING EVENTS · MARRIAGES · DEATHS

COOK COUNTY

Personal.—Dr. Philip Thorek, Chicago, addressed the Muskegon County (Mich.) Medical Society, November 2, on "The Acute Abdomen."

Personal.—Dr. Samuel J. Taub lectured before the American College of Chest Physicians in Milwaukee, October 5, and before the faculty and students of the National University of Mexico, Mexico City, October 18; both talks were on asthma.

New Weekly Bulletin.—"This Week in Chicago Medicine" is the title of a new mimeographed weekly bulletin issued by the Chicago Medical Society and supplementing its regular weekly publication. The first issue of the new publication made its appearance the week of December 7. The deadline for receipt of material is the Thursday morning preceding each date of issue. Aimed to serve as a directory of medical activities of interest to physicians, the present mailing list covers all medical libraries and medical schools in the United States, all hospitals in Illinois as well as those in large cities in states adjacent to Illinois, and all city and county medical societies throughout the country that have permanent headquarters. A program is now being developed whereby all hotels in the Chicago area will receive "This Week in Chicago Medicine" for bulletin board display. The first issue covers meetings of specialty societies, the address of local medical libraries and medical schools, the date of the Fourth Annual Clinical Conference of the Chicago Medical Society, a directory of Cook County hospitals, and the time and place of seminars, scientific movies, and clinical and pathologic conferences planned by the various hospitals in the Chicago area.

Physicians visiting Chicago are urged to call or visit the office of the Chicago Medical Society for information concerning local activities. The address is 30 North Michigan Avenue and the telephone number Central 3026.

Industrial Health Plan Launched.—An educational program designed to raise the standards of industrial health and medicine among 1,500,000 workers in Chicago and Cook County was inaugurated January 1. Known as the Chicago Industrial Health Plan, the program is supported by more than thirty community groups, including all health agencies, major labor unions, management groups and welfare associations. Lester Seelig, president of the American Transportation Company, is general chairman; Dr. Frederick W. Slobe, chairman of the Committee on Industrial Medicine, Chicago Medical Society, is chairman of the executive committee, and Alexander Rlpchan of the Health Division of the Council of Social Agencies is secretary. Labor organizations are to name a co-chairman to serve with Mr. Seelig. Financed with $15,000 contributed by the state, the American Red Cross, the Tuberculosis Institute, and the American Cancer Society, the plan will have as full time executive director Percy Shostac who directed a similar program for Brooklyn. The program will seek to carry out recommendations made in 1946 by the U. S. Public Health Service and published as the Chicago-Cook County Health Survey, newspapers reported. Mr. Shostac will supervise publication of a monthly paper on health information to be distributed free for six months to factories in this area. Supporters of the plan hope that industries later will contribute to the educational program. The health survey disclosed that industrial hygiene programs are well carried out by most large industries, but that workers in plants employing 100 or fewer receive almost no medical services.

New Head of Radiology Department.—Dr. Edward L. Jenkinson, senior director of the department of radiology at St. Luke's Hospital and president of the American Board of Radiology, has been appointed chairman of the department of radiology at Northwestern University Medical School, succeeding Dr. James T. Case. Dr. Jenkinson graduated at St. Louis University School of Medicine in 1915.

"Where We Stand Today in Medicine".— Presentations by Fellows of the Institute of Medicine or recent contributions and current thought in the basic sciences and in the various branches of clinical medicine, arranged by the Committee on Postgraduate Activities.

The meetings will be held on the 2nd and 4th

Friday afternoons of each month, beginning January 9, 1948, promptly from 4:45 to 5:30 o'clock in the Assembly Room of the Institute. They will be open without fee to all physicians and allied professional groups. A question period after the presentations will be conducted at the discretion of the individual speakers.

January 9—"Life Expectancy After Radical Removal of Carcinoma of the Large Bowel Based on Pathological Considerations", Vernon C. David, Rush Clinical Professor of Surgery, University of Illinois College of Medicine.

January 23—"Gastric Vagotomy in the Treatment of Peptic Ulcer", Lester R. Dragstedt, Professor of Surgery, and Chairman, Department of Surgery, The University of Chicago.

February 13—"The Role of Sex Hormones in the Differentiation of the Sexes and in Sexual Abnormality", Carl R. Moore, Professor of Zoology, The University of Chicago.

February 27—"Pneumonoconiosis, Emphysema, and Right Heart Failure", Norbert Enzer, Director of Laboratories, Mount Sinai Hospital, Milwaukee.

March 12—"Experimental Fenestration of the Labyrinth and its Bearing on the Human Operation", George E. Shambaugh, Jr., Assistant Professor of Otolaryngology, Northwestern University Medical School.

March 26—"Race and Disease", Julian H. Lewis, Director of Research, Provident Hospital, Chicago.

April 9—"Recent Advances in Gynecology", Ralph A. Reis, Assistant Professor of Obstetrics and Gynecology, Northwestern University Medical School.

April 23—"New Electrodiagnostic Methods in Peripheral Nerve Lesions", Lewis J. Pollock, Professor of Nervous and Mental Diseases and Chairman, Department of Nervous and Mental Diseases, Northwestern University Medical School.

May 14—"Endoscopic Photography in Otolaryngology and Bronchoesophagology", Paul H. Holinger, Assistant Professor of Otolaryngology, University of Illinois College of Medicine.

May 28—"Intra-Abdominal Masses Accurring in Children", Egbert H. Fell, Associate Professor of Surgery, University of Illinois College of Medicine (Rush).

Tuberculosis Hospital Advisers Named.—Mayor Kennelly on November 18 appointed a board of six physicians to serve as medical advisers to the Municipal Tuberculosis Sanatorium. The physicians are Dr. Robert G. Block, associate professor of medicine, University of Chicago School of Medicine; Dr. Morris Fishbein, Editor of The Journal of the American Medical Association; Dr. N. C. Gilbert, professor of medicine, Northwestern University Medical School; Dr. James H. Hutton, chairman of the Committee on Medical Service and Public Relations, Illinois State Medical Society, and Dr. Henry L. Schmitz, associate clinical professor of medicine, Loyola University Medical School.

Hospital News.—A $250,000 addition to the Babette and Emanuel Mandel Clinic is under way at Michael Reese Hospital. Fifth and sixth floors are being built, newspapers reported. The fifth will house a new pediatrics clinic, a playroom for health education and an addition to the dietary department. The sixth floor will be devoted to psychiatric clinics, a psychologists' laboratory, a psychiatric social service students unit and observation-treatment quarters. Physicians volunteer their services to the clinic.

Meeting of Interns and Medical Students.—The Association of Interns and Medical Students conducted its annual convention at the Chicago Professional Colleges of the University of Illinois on December 27-29. Sessions were held in the Chicago Illini Union.

Dr. A. C. Ivy, vice president in charge of the University of Illinois for the Chicago Professional Colleges, spoke at a luncheon on Saturday, December 27. Several other distinguished leaders in the field of medicine, including Drs. Walter L. Palmer, head of the department of medicine at the University of Chicago, Warren H. Cole, head of the department of surgery at the University of Illinois, and Samuel Soskin, director of medical research at Michael Reese hospital, Chicago, presented clinics and seminars.

Open sessions were devoted to addresses and symposia on the subjects of medical education and student welfare, intern and resident welfare and education, extension and medical care, medical economics, and international health organization.

Panel discussions were conducted on several subjects, including the question of selection of interns and medical students. The question of discrimination was a featured panel.

CMS Devotes Session to Tuberculosis.—The Chicago Medical Society devoted its meeting, November 19, at the John B. Murphy Memorial Auditorium to a symposium on tuberculosis with the following speakers:

Dr. Jerome R. Head, Nonmedical Treatment of Tuberculosis.

Dr. R. L. Midgley, chief surgeon, Devon County Sanitarium, Devon County, England, Surgery and Chemotherapy of Tuberculosis in England.

Dr. H. McLeod Riggins, physician in charge of Streptomycin research, New York State Hospitals, The Chemotherapy of Tuberculosis.

Dr. Francis J. Weber, medical director, chief tuberculosis control division, U.S. Public Health Service, The National Aspects of B C G Immunizations.

Dr. Ernest E. Irons, Observations of the Chicago Committee on the Effectiveness of B C G Vaccine Among Nurses and Interns.

Dr. Sol Roy Rosenthal, Technique of B C G Vaccination.

The discussion was carried on by Drs. Frederick

Tice, D. J. Davis, A. A. Day, Walter H. Theobald and Arthur Newitt.

Scholarship Named for Physician.—Scholarships have been established at the University of Illinois College of Medicine by the Berkelhamer family, 3945 West Jackson Boulevard, Chicago, in honor of the late Dr. Ralph C. Berkelhamer who was taken prisoner by the Japanese at Bataan and who perished when his prison ship bound for Japan was sunk by submarine action in the South China Sea in October 1944. Leslie T. McClinton, Chicago, and Robert H. Kass, Berwyn, have been awarded the first scholarships representing gifts of $100 each. McClinton serves as president of the junior class in medicine. Kass, also a junior medical student, completed thirty-four bombing missions during the war as a B-17 pilot for the 8th Air Force. Students who have completed at least one year in the college of medicine are eligible for the scholarship. The Berkelhamer family has stipulated that the scholarship may be awarded "to any needy and deserving student, with no prejudice as to race or religion."

Special Lectures.—The twelfth Christian Fenger Lecture of the Institute of Medicine and the Chicago Pathological Society was delivered at the Palmer House on Monday evening, January 12, at 8:00 o'clock by Dr. E. V. Cowdry, The Barnard Free Skin and Cancer Hospital, St. Louis, on "Expectations in Cancer Research." The first Edward Lorenzo Holmes Memorial Lecture of the Rudolph Wiesser Holmes and Maria Baxter Holmes Fund in memorial to Dr. Edward Lorenzo Holmes will be delivered at a joint meeting with the Society of Medical History of Chicago at the Palmer House on Friday evening, January 30, at 8:00 o'clock by Dr. Edward Vail Lapham Brown, Rush Clinical Professor Emeritus of Ophthalmology, University of Illinois College of Medicine.

Department of Clinical Science Established.—A department of clinical science has been established at the Chicago Professional Colleges of the University of Illinois for the purpose of emphasizing the interdependence of the basic sciences and the practice and progress of clinical medicine.

The department, unique among medical colleges in the United States, will be headed by Dr. A. C. Ivy, vice president of the University.

Problems of research which will be conducted in the department cover the entire science of medicine. Research will include:

1. Normal and pathological gastro-intestinal physiology (the hormones of the digestive system), involving studies of enterogastrone in the treatment of peptic ulcer, cholecystokinin in the diagnosis of gall bladder disease, and the chemical structure of secretion, the hormone for the pancreas.

2. The biology of cancer, including studies of diagnostic tests for cancer, and growth promoting and growth inhibiting substances.

3. The vital function of the kidneys, involving studies of prolongation of life after bilateral removal of the kidneys.

4. The mechanisms and most effective means of producing analgesia, involving a search for analgesic drugs and a study of where analgesic drugs act.

Four faculty members with the rank of assistant professor, Drs. Morton I. Grossman, William H. Backrach, Louis R. Krasno, and L. L. Gershbein, have been assigned to the department. Five research fellows and 30 graduate students also are conducting research in the department.

The department is offering three courses on "Advanced Physiology of the Digestive System," "Seminar in Clinical Science," and "Research in Clinical Science" for graduate students during the current semester. A fourth course, "Physiology of Symptoms," is offered to undergraduate medical students.

Dr. Carlisle Honored.—Dr. W. T. Carlisle was recently made an honorary member of the Texas Obstetrical and Gynecological Society. As a guest speaker at the society's meeting, November 21-23 Dr. Carlisle addressed the group on "Choice of Surgical Procedure in Vaginal Repair Operations" and "Management of Ovarian Tumors."

Internal Medicine Meeting.—The twenty-first regular meeting of the Chicago Society of Internal Medicine was held, November 24, in Chicago. Speakers before the group included Dr. C. Wesley Eisele and Dr. Norman B. McCullough on "An Evaluation of Diagnostic Methods of Use in Brucellosis"; Dr. Michael H. Streicher, Dr. Morton I. Grossman, and Dr. Andrew C. Ivy on "Clinical Evaluation of Dibuteline in Diseases of the Gastrointestinal Tract"; and Dr. Louis N. Katz, Dr. L. Horlick, and Dr. J. G. Schlichter on "Experimental Atherosclerosis."

Chicago Association of Commerce Sponsors Medical Meeting.—"Chicago Medicine Looks Ahead" was the theme of a program, November 19, at the Hotel Sherman, under the auspices of the Chicago Association of Commerce and Industry. The speakers were Dr. Donald C. Balfour, director, Mayo Foundation for Medical Education and Research; Dr. Andrew C. Ivy, vice president, University of Illinois College of Medicine; Dr. James J. Smith, dean, Loyola University School of Medicine; Dr. Lowell T. Coggeshall, dean, division of biological sciences, University of Chicago School of Medicine; and Dr. J. Roscoe Miller, dean, Northwestern University Medical School.

New Appointments at Illinois.—Dr. Jules H. Last, recently released from active duty by the U. S. Army with the rank of captain, has been appointed an assistant professor in the department of pharmacology and toxicology at the University of Illinois.

Dr. Last conducted nutritional studies in service, and was a member of "Task Force Frigid." He received his doctor of philosophy degree at the

University of Chicago in 1941, and his doctor of medicine degree at the University of Illinois in 1944. He resides at 1050 Oak street, Highland Park.

Dr. C. C. Pfeiffer, head of the department of pharmacology and toxicology, also has announced the appointment of two research associates. They are Dr. James A. Bain of Langdon, N.D., and Dr. Virgil A. Gant, 20 S. Dearborn street, Chicago.

Dr. Bain, a graduate of the University of Wisconsin, is studying the biochemistry of epilepsy. Dr. Gant, who received his doctor's degree in pharmacology at the University of Illinois in 1938, will serve as a research associate in toxicology on a half-time basis.

The Annual Pusey Dinner.—The second annual William Allen Pusey Dinner was held at the University Club of Chicago, October 15, for members of the Chicago Dermatological Society. The speakers were Drs. Otto H. Foerster and Leonard F. Weber. Dr. Pusey was a charter member of the society and established the fund for the annual dinner.

Expand Services in the Field of Speech and Hearing.—The School of Speech and the Medical School of Northwestern University will expand their educational and clinical services in the fields of speech and hearing by establishing a new graduate course in ear, nose and throat. Dr. Howard C. Ballenger, associate professor of otolaryngology, will supervise the new program, with Dr. Elmer W. Hagens, assistant professor of otolaryngology, conducting a basic course in ear, nose and throat. Dr. George E. Shambaugh Jr., assistant professor of otolaryngology, will teach a course on the fenestration operation. Guidance in the selection of hearing aids will be a part of the new program, and Raymond Carhart, Ph.D., professor of audiology and director of the School of Speech's hearing laboratory on the Evanston campus, will supervise testing, oral rehabilitation, lip reading, auditory training and speech control before and after operations, thus coordinating medical and surgical work with the department of audiology. The addition of a laboratory in the medical school will enlarge the activities of the School of Speech Hearing Laboratory and permit a greater number of patients to be accommodated. About 600 children and adults with hearing deficiencies have been assisted in the Evanston laboratory during the last year.

University Lecture.—Dr. M. M. Suzman, Johannesburg, South Africa, delivered an illustrated lecture on the "Clinical Aspects of Nutritional Deficiency Diseases as Seen in South Africa", November 26, at the University College of Medicine. Dr. Suzman serves as senior physician to the Johannesburg General Hospital, and is a member of the department of medicine at Witwatersrand University.

Postgraduate Course on X-Ray.—The American College of Radiology, in cooperation with the Chicago Roentgen Ray Society, will sponsor a regional course, March 8-12. First preference for the courses will be given to applicants who are fellows and members of the college who are veterans of World War II and who have not taken previous courses. Second preference will be given to non-veteran members and fellows of the college who have not taken previous courses. A maximum of one hundred registrants will be admitted to the course. The tuition will be fifty dollars. Dr. Theodore J. Wachowski is in charge of arrangements for the Chicago course.

New Site for Loyola University.—Loyola University has negotiated for a new $12,000,000 site on which to build a new medical and dental school, newspapers reported October 22. The university plans to erect a $3,000,000 building and set aside $9,000,000 for maintenance and medical research.

Branch Meeting.—The North Shore Branch, Chicago Medical Society, held a scientific meeting, November 4, at the Edgewater Beach Hotel, Chicago. Speakers on the program were Dr. Leon Jacobson, assistant professor of medicine and associate dean, University of Chicago School of Medicine and Dr. T. J. Wachowski, associate professor of radiology and chief of x-ray therapy, University of Illinois College of Medicine on "The Use of Nitrogen Mustard in the Treatment of Neoplastic Diseases"; and Dr. George B. LeRoy, associate professor of medicine, Northwestern University School of Medicine, on "Medical Problems of Atomic Warfare."

Dr. Gardner Promoted.—Dr. George H. Gardner, a member of the faculty at Northwestern University Medical School since 1927, has been appointed chairman of the department of obstetrics and gynecology in the medical school, it was recently announced. Dr. Gardner is assistant dean and has been professor of gynecology since 1946.

GREENE COUNTY

Annual Election of Officers.—Dr. F. Earl Walker, Roodhouse, was elected president of the Greene County Medical Society at its annual meeting in the American Legion Hall, Roodhouse, December 12. Other officers are Drs. Paul A. Daley, Carrollton, vice president; W. H. Garrison, White Hall, secretary-treasurer, and N. J. Bucklin, censor. Drs. Paul Garrison, Winchester, and W. H. Newcomb, Jacksonville, were visitors at the session which was addressed by Dr. Ellsworth Black, Jacksonville, on "Peptic Ulcer." Following a turkey dinner, the business meeting was called to order by Dr. R. W. Piper, outgoing president of the society. Communications were discussed from the Public Aid Commission calling attention to various proposed changes relative to the handling of medical care of public aid recipients and the Illinois State Nurses Association. Further business included the acceptance into membership of the society of Dr. E. G. de Quevedo.

LAKE COUNTY

Personal.—Dr. Walter W. Dalitsch, Lake Bluff, reserve liaison officer at the Ninth Naval District Headquarters, addressed a joint meeting of the Lancaster County Medical Society and the Lincoln District Dental Society, November 3, in Lincoln, Nebr., on "Medical Problems in Dentistry." A similar program was given at Omaha, November 4.

LA SALLE COUNTY

Society News.—Dr. Chauncey C. Maher, Chicago, discussed "Auricular Fibrillation" before the La Salle County Medical Society in La Salle, December 11.

MACON COUNTY

Society News.—Dr. Carl Harford, chief of the division of infectious diseases, Barnes Hospital, a member of the staff of Washington University School of Medicine, St. Louis, addressed the Macon County Medical Society, November 20, in Decatur. His subject was "Drug Fastness in Chemotherapy."

Smith Memorial Planned.—The obstetrical department in Decatur and Macon County Hospital will be remodeled and named for Dr. D. D. Smith who for many years was chief of the department. The Macon County Medical Society Bulletin reports that $15,000 of the $35,000 goal has already been reached.

MADISON COUNTY

Society News.—"Allergy" was the topic discussed by Dr. H. E. Hampton, St. Louis, before the Madison County Medical Society at its meeting at St. Elizabeth's Hospital, Granite City, December 5.

Society News.—The annual dinner and Christmas party of the Madison County Medical Society was held in Highland, Illinois, Thursday evening, November 13. Dr. Groves B. Smith was master of ceremonies at the affair. A wrapped gift of $1.00 value was given to each person present. — Dr. Eugene M. Bricker, assistant professor of clinical surgery at Washington University School of Medicine, St. Louis, discussed "Carcinoma of the Colon and Rectum" before the society in October.

McLEAN COUNTY

Society News.—Dr. John H. Olwin of Presbyterian Hospital, Chicago, discussed "Anticoagulant Therapy" before the McLean County Medical Society at its dinner meeting in Bloomington, December 9.

PEORIA COUNTY

Society News.—Dr. Walter C. Alvarez, Rochester, Minn., addressed the North Central Medical Association and the Peoria Medical Society in Peoria, November 6. — Dr. J. Peerman Nesselrod and Dr. Jay Garner, Northwestern University Medical School, addressed the Peoria Medical Society, November 18, on "Role of Infection in Ano-Rectal Disease."

ROCK ISLAND COUNTY

Society News.—Dr. Danely P. Slaughter, associate professor of surgery, University of Illinois College of Medicine, addressed the Rock Island County Medical Society, November 11, on "The Diagnosis of Accessible Cancer" at the Rock Island County Tuberculosis Sanatorium, Rock Island.

WHITESIDE COUNTY

Society News.—Dr. Raphael Isaacs, Chicago, attending physician in hematology, Michael Reese Hospital, addressed the Whiteside County Medical Society at their annual meeting, December 8, in Sterling, on "The Rh Factor and Its Significance in General Practice."

WILLIAMSON COUNTY

Society News.—A Six County Medical Society meeting arranged by Dr. Martin M. May, secretary of the Williamson County Medical Society, November 20, was addressed by Drs. Robert J. Crossen and J. C. Jaudon, both of St. Louis, on "Carcinoma of Uterus" and "Feeding and Care of the Infant During the First Year of Life," respectively. The meeting was held at the Lymar Hotel, Herrin, and included the counties of Franklin, Jackson, Perry, Randolph, Union and Williamson.

WINNEBAGO COUNTY

New Society Members.—The following doctors have been elected to membership in the Winnebago County Medical Society since September:

Doctor LeBaron Paul Johnson, who resides at 2802 Cumberland St., who is associated with Doctor Joseph Lundholm.

Doctor Garland O. Wellman, who resides at 1921 East Gate Parkway, who is associated with Doctor T. A. Johnson.

Doctor Robert E. Heerens, who resides at 307 Cole Avenue, and whose offices are in the City National Bank Building.

Doctor Edward V. Platt, who resides at 2311 Oxford Street, and who heads the Department of Anaesthesiology at St. Anthony Hospital.

Doctor M. O. Alexander, who resides at Winnebago, Illinois, and who heads the Department of Pathology and Bacteriology at Rockford Memorial Hospital.

WOODFORD COUNTY

Personal.—Dr. Loren Boon recently opened an office in Danvers. Dr. Boon served in the army of the United States during World War II.

GENERAL

Joint Meeting on Tuberculosis.—Dr. J. Arthur Myers, former president of the National Tuberculosis association and president of the Mississippi Valley Conference on Tuberculosis, was the principal speaker at a joint meeting of the Illinois Trudeau society, the Illinois Chapter of the American College of Chest Physicians and the Sangamon County Medical society in Springfield, October 2.

Speaking on "Tuberculosis in General Practice and the Specialties," Dr. Myers addressed the evening

session of the meeting. In the afternoon the doctors heard Dr. Charles K. Petter, medical director and superintendent of the Lake County Tuberculosis sanatorium speak on "The Need for Periodic X-ray Examination of Adult Chests;" Dr. D. H. Trumpe, assistant medical director, St. John's Tuberculosis Sanatorium, Springfield, discuss "The Role of Bronchoscopy in Diseases of the Chest;" Dr. George H. Vernon, medical director, Palmer's Tuberculosis sanatorium, Springfield, speak on "Our Experience with Streptomycin;" and Dr. J. A. Stocker, assistant medical director, St. John's Tuberculosis sanatorium, Springfield, discuss "Limitations of Collapse Procedures."

Presiding officer at the afternoon meeting was Dr. Arthur S. Webb, president of the Illinois Tuberculosis Association and tuberculosis controller, Du Page County Sanatorium board. Leaders of discussion at that meeting were Dr. Clifton Hall, chief, Illinois Tuberculosis Control division: Dr. Stuart Broadwell; Dr. A. E. Steer, medical director, Sangamon County Tuberculosis board, and Dr. L. L. Collins, medical director and superintendent, Madison County Tuberculosis sanatorium.

Former Illinois Physician Honored.—Dr. Andrew Harvey, assistant health officer, Long Beach, California, and formerly a resident of Illinois was recently presented with a fifty year pin in a ceremony at the Pleiades Lodge.

New Officers of Mississippi Valley Society.—The 13th Annual Meeting of the Mississippi Valley Medical Society will be held at Springfield, Illinois, September 29, 30, October 1, 1948, under the presidency of W. O. Thompson, M.D., of Chicago, Professor of Medicine, University of Illinois.

At the November meeting of the Board of Directors the following officers were elected.

President-Elect: Alphonse McMahon, M.D., St. Louis, Mo.

1st Vice Pres.: Elliott F. Parker, M.D., Moline, Ill.

2nd Vice Pres.: Clinton W. Lane, M.D., St. Louis, Mo.

3rd Vice Pres.: John C. McKittrick, M.D., Burlington, Iowa.

Sec.-Treas.: Harold Swanberg, M.D., Quincy, Ill. (Re-elected).

Acc't. Officer: Ralph McReynolds, M.D., Quincy, Ill. (Re-elected).

The recently elected Directors of the Society from Illinois are Drs. J. E. Bellas, Peoria; M. E. Bitter, Quincy; Warren Furey, Chicago; James Graham, Springfield; James Hermetet, Macomb; Fred Mueller, Chicago; W. C. Scrivner, East St. Louis.

Dr. Bauer Given Prentiss National Award in Health Education.—W. W. Bauer, M.D., director of the Bureau of Health Education of the American Medical Association since 1932, today was awarded the Elisabeth Severance Prentiss National Award in Health Education, given each year by the Cleveland Health Museum to the person who has made the most outstanding contribution to health education.

The presentation was made November 17, 1947, at the annual civic luncheon in Cleveland of the Cleveland Health Museum. The ceremony was broadcast over the Mutual network. In addition to the acceptance speech by Dr. Bauer, Dr. Robert Stecher of Cleveland gave a report on medical conditions in the European countries from which he has just returned.

The Prentiss Award was established in 1943 in memory of the Museum's first foundation benefactor to stimulate health education, and recipients are selected by a national committee. Names of the annual winners are inscribed on a bronze plaque at the Museum, and the winners themselves receive a replica of the plaque and an embossed certificate. Mrs. Prentiss, in whose name the awards are given, left her mansion to house the first health museum in America.

Dr. Bauer, the winner of this year's award, is associate editor of *Hygiea,* the health magazine of the American Medical Association. He is in charge of the A. M. A. radio programs, broadcast over the NBC-MBS network and other stations, and is the author or co-author of nine books and of numerous magazine articles pertaining to health.

Aesculapian Society Elects Officers.—Dr. C. D. Swickard, Charleston, was elected president of the Aesculapian Society of the Wabash Valley at its fall meeting, October 30, in Danville, succeeding Dr. C. L. Kerrick, Chrisman. Other officers chosen included Drs. Harlan English, Danville, secretary-treasurer, and W. C. Meyers, Vincennes, vice president. The spring meeting will be in Vincennes.

HEALTH DEPARTMENT ACTIVITIES

Health Officers Named.—Effective September 1 Dr. Charles R. Kincaid was appointed Health Officer for the Will County Health Department, with offices in Joliet. Dr. Kincaid took his medical degree at Ohio State University and his master's degree in public health from the University of Michigan. He was employed for three years with the Indiana State Board of Health and served for three years as Director of the City-County Health Department at Eau Claire, Wisconsin. He also served with the United States Army from January 1943 to February 1946.

Dr. Ernest J. Beckner of the State of Kansas was appointed Health Officer for the Montgomery County Health Department effective October 1. After receiving his medical training at the University of Nashville in Nashville, Tennessee, Dr. Beckner engaged in private practice for twenty years. Since 1941 he has served as Health Officer in Kansas, first with the Health Department in Pratt County and later with the Butler County Health Department.

New Bulletin.—In October, the first issue of "Blithe" made its appearance under the auspices of the Division of Public Health Education of the

Illinois State Department of Public Health. "Blithe" or Better Living in Illinois Through Health Education, is a news bulletin of health activities throughout the state and will appear monthly in mimeographed form. Its first issue announced that twenty-seven Quincy and Adams County organizations met October 7 to plan for the organization of a local health council which will become a division of the Adams County Community Chest and Welfare Council. The council was proposed by the Adams County Medical Society at a joint meeting of the executive committees of the Welfare Council and medical society early this year. The first issue also discussed new books on health education, announcements of meetings, and new films that are available.

The second issue of "Blithe" discussed the seventeen health circulars that are on the press on a wide range of health topics. In addition, there are nine manuscripts being worked on for publication covering the common cold, diseases transmitted from animals to man, diseases transmitted from water to man, the endocrine glands, rheumatic fever, Rock Mountain spotted fever, scarlet fever, dysentery and tuberculosis. It is hoped that these manuscripts will be available in booklet form by September of 1948.

"For The Common Good"

Dr. Harry M. Hedge Uses Words "Doctor of Medicine" on his stationery. This is interesting and shows a real appreciation of the degree signifying his professional status.

"Do Good, Be Good and Then Publicize It" is the crux of good public relations, according to Dr. Harold M. Camp, Secretary of the Illinois State Medical Society. The success of this concept was exemplified during the National Farm Show at the Coliseum, Chicago, November 29-December 7, when "The Doctor and His Medical Society," the exhibit, reflecting the formal organization structure and activities of the Illinois State Medical Society, was a feature of the Educational Exhibits.

An attendant was in the booth of the society from 9 a.m. until 11 p.m. to answer questions and point out the similar basic structure in each county and state medical society, emphasizing the representation of each state society in the House of Delegates of the American Medical Association. The county, state and national level in the complete medical picture was explained, with emphasis on the physicians as the fundamental unit in the entire program.

Because of the wide range of persons reached, this brief indoctrination should have a broad educational influence. While conversations were held with visitors from many states, persons who signed the register requesting specific information from the Illinois State Medical Society were from twenty-six states: Alabama, Arizona, Arkansas, California, Colorado, Georgia, Indiana, Iowa, Kansas, Maryland, Massachusetts, Michigan, Minnesota, Missouri, Montana, Nebraska, New Jersey, New Mexico, New York, North Dakota, Ohio, Oklahoma, South Dakota, Texas, Virginia and Wisconsin. One person was from Bahia, Brazil, one from the Philippines, and Saskatchewan, Edmonton and Manitoba were represented from Canada. One person was from the State Clerk's Office in Missouri; one was a radio station manager in Minnesota; one represented the Minnesota Agricultural Association, and was an editor of a weekly newspaper. There were rural school teachers, 4-H Club leaders, home bureau advisers, one professor from Texas Technological College, one priest on the staff of a Chicago college, and one teacher from a Chicago high school brought in a group of sixteen students. There were physicians, nurses, veterinarians, farm and rural residents. Eighty-five cities throughout the state of Illinois were represented.

This information is cited to show the wide cross-section reached by the Illinois State Medical Society in explaining its own educational services. The reactions indicated that many persons from other states were not familiar with their state society and, as a measure of public relations in Illinois, it is hoped to write persons from these states, who asked for specific information, informing them of the headquarters of the respective state medical societies.

There were requests for HEALTH TALK, the health column of the Educational Committee, the Prepayment Medical and Surgical Plan of the state society, legislative material dealing with the public health and package libraries on a wide range of subjects. One of the popular questions was "How to Obtain a Doctor."

"Doctors and Horses", a new brochure designed to show that an effective health program must be initiated and carried on at a community level, made its appearance at the Farm Show. Approximately 4,000 copies were distributed. The booklet is the work of the Committee on Rural Medical Service and the Committee on Medical Service and Public Relations, whose respective chairmen are Dr. Harlan English, Danville, and Dr. James H. Hutton, Chicago.

Another booklet, "The Doctor and His Medical Society," describing the formal setup of medical organization and committee activities, also made its appearance at the Farm Show. This was an activity of the Educational Committee whose chairman is Dr. Charles P. Blair, Monmouth.

Realizing the value of having an attendant in the

President Irving H. Neece (center) visits the Society's educational exhibit at the National Farm Show and explains details to two visitors.

booth at all times, the Chairman of the Advisory Committee to the Woman's Auxiliary, Illinois State Medical Society, Dr. Darwin B. Pond, Chicago, offered the project to the members of the auxiliary. The State Auxiliary, whose president is Mrs. John Soukup, Chicago, welcomed the opportunity, but the Chicago group, recognizing the travel distance involved for downstate members, assumed complete responsibility for five week days. The women attended the exhibit on four hour shifts. Of the many volunteers that submitted their names, the following were chosen in order of their receipt: Mrs. Ralph A. Davis, Mrs. Walter W. Armstrong, Mrs. Harold W. Miller, Mrs. Karl L. Vehe, Mrs. John Mart, Mrs. J. P. Schriver, Mrs. Virgil Vanstane, Mrs. H. Kenneth Scatliff, Mrs. A. Weigen, Mrs. G. F. Hibbert, Mrs. G. W. Lawson, Mrs. E. W. Gardner, Mrs. Joseph Shanks, Mrs. James McDonnough, Mrs. B. K. Lazarski, Mrs. Samuel G. Plice, Mrs. J. W. Fischer, Mrs. Albert T. Lundgren, Mrs. Nicholas Dykstra, Mrs. Adolph J. Jarosz, and Mrs. August Wendel. During the weekends and evenings, the staff of the Illinois State Medical Society attended the booth.

Of the fourteen educational films that were run continuously each day, two appeared under the auspices of the Illinois State Medical Society: "A Stitch in Time," endorsed by the National Safety Council, and "Water, Friend or Enemy," developed by the Office of Inter-American Affairs and released through Association Films.

The expansion of medical care to farm families is one of the biggest problems yet to be solved. That medical organization recognizes this need was evidenced in this program of the Illinois State Medical Society at the National Farm Show and indicates that the doctor of medicine, individually, through his society, is actively interested in obtaining good medical care for all rural residents.

The cooperation of all persons identified with this educational project of the Illinois State Medical Society, particularly the Committees concerned with working for and with the public, and the splendid assistance of the Woman's Auxiliary of the state medical society are an excellent example of good public relations within the organization itself. This factor alone will assure good service to the public at large.

Lectures Arranged Through the Scientific Service Committee of the Illinois State Medical Society:

Dr. Otto St. Clair Krebs, St. Louis, Macoupin County Medical Society in Carlinville, November 25, Sterility.

Dr. Samuel M. Feinberg, Chicago, Vermilion County Medical Society in Danville, December 2, Diagnosis in Allergy: Its Interpretation.

Dr. Raphael Isaacs, Chicago, Whiteside County Medical Society in Sterling, December 8, The Rh Factor and Its Significance in General Practice.

Dr. Ralph H. Kunstadter, Chicago, Will-Grundy County Medical Society in Joliet, December 11, Diarrhea Problems Among the Newborn: Treatment.

Dr. Manuel Spiegel, Chicago, joint meeting of Lawrence, Jasper, Richland, Clark and Crawford County Medical Societies, in Danville, December 11, Conduct of Breech Delivery. Dr. Spiegel also conducted a clinic.

Dr. Nathan S. Davis, Chicago, Du Page County Medical Society in Elmhurst, December 17, Geriatrics.

Dr. Israel Davidsohn, Chicago, Will-Grundy County Medical Society in Joliet, January 22, The Rh Factor.

Dr. Maurice Wald, Winnetka, Vermilion County Medical Society, Danville, February 3, Hypertension.

Dr. Chester Coggeshall, Chicago, Will-Grundy County Medical Society in Joliet, February 12, Recent Advances in Diabetes.

Dr. W. H. Tucker, Evanston, Logan County Medical Society in Lincoln, February 19, Flourine and Dental Caries.

Dr. Emmet B. Bay, Chicago, Will-Grundy County Medical Society in Joliet, February 26, Drug Administration in Heart Disease.

Lectures Arranged Through the Educational Committee of the Illinois State Medical Society:

Dr. Louise E. Tavs, Chicago, Woman's Auxiliary, Englewood Branch, Chicago Medical Society, November 14, Care of the Skin.

Dr. Charles K. Kincaid, Joliet, Junior Women's Club, Peotone, November 25, Public Health.

Dr. Franklin Fitch, Chicago, Fra Del Rhoo, a club group, December 16, Sex Hygiene.

Dr. Raymond E. Davies, Spring Valley, Monmouth Women's Club, January 9, What We Can Do About Cancer.

Dr. Leon M. Hart, Chicago, Young Married

Couples Evening Club, Chicago, January 11, Medicine in World War II.

Dr. Harlan English, Danville, Women's Club of Springfield, January 17, Compulsory Health Insurance.

Dr. Ernest Schmidhofer, Chicago, Calumet High School PTA, Chicago, January 20, Physical, Mental and Emotional Needs of Children.

Dr. John T. Reynolds, Chicago, Chicago Woman's Aid Club, January 23, Advances in Cancer:

Dr. Harold W. Miller, Chicago, Woman's Auxiliary, Aux Plaines Branch, Chicago Medical Society in Oak Park, January 23, Prepayment Medical Care Plan.

Dr. Hugo Rony, Chicago, Woman's Auxiliary, South Chicago Branch, Chicago Medical Society, February 2, Growing Old Gracefully.

Dr. George E. Wakerlin, Chicago, Woman's Auxiliary, Vermilion County Medical Society in Danville, February 3, Antivisection.

Dr. Pliny R. Blodgett, Chicago Heights, Forest Ridge Woman's Club, February 18, Blood Pressure.

Dr. George H. Rezek, Chicago, Belmont Women's Club, Chicago, February 18, Facing the Forties.

DEATHS

JOSEPH ELWELL ASAY, Rock Island, who graduated at Cincinnati College of Medicine and Surgery in 1892, died August 6, aged 80.

WALTER CARON, Oak Park, who graduated at the College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois in 1905, died September 17, aged 70, of arteriosclerotic heart disease.

JOHN ROBERT COCHRAN, JR., Evanston, who graduated at Harvard Medical School, Boston, in 1937, died September 27, aged 37, of hypertension. He was instructor of surgery at Northwestern University Medical School.

EARL COOPER, Augusta, who graduated at Keokuk Medical College, College of Physicians and Suregons, Keokuk, in 1905, died November 5, aged 68.

SOLOMON GREENSPAHN, Chicago, who graduated at Rush Medical College in 1889, died November 17, aged 81. He had practiced medicine in Chicago for 56 years and was medical director of the American Hospital.

CHARLES H. MCKENNA, Chicago, who graduated at Northwestern University Medical School in 1913, died November 13 in his home, aged 62. He was on the staff of Mercy Hospital for 15 years and was former chairman of medicine at Holy Cross Hospital.

GEORGE W. MICHELL, Peoria, who graduated at Rush Medical College in 1902, died November 17, aged 71. He operated two sanitariums for the treatment of mental and nervous disorders.

CLARA M. OCHS, Oak Park, who graduated from University of Illinois College of Medicine in 1918, died November 19, aged 71. She had been on the staff of the Women and Childrens Hospital.

HUGH M. ORR, LaSalle, who graduated at College of Physicians and Surgeons at Baltimore in 1895, died November 17, aged 80, of heart disease. He helped found St. Mary's Hospital and was mayor of LaSalle for 19 years.

HENRY REIS, Belleville, who graduated at Columbian University Medical Department, Washington, D. C., died August 4, aged 75, of cerebral hemorrhage. Formerly was a member of the State Board of Health and was on the staff of St. Elizabeth's Hospital.

REINHARD REMBE, Chicago, who graduated at University of Berlin in 1895, died November 11, aged 84. He was chief of staff of the Philippine General Hospital in the Philippine Islands from 1909 to 1916.

DAVID COOK RICHARDSON, Olmstead, who graduated at Chicago Medical School in 1932, was found dead in a St. Louis hotel August 19, aged 44, of heat stroke.

THOMAS H. SANDY, Oak Park, who graduated at Harvey Medical College in 1901, died November 24, aged 72. For 35 years he was medical director of the Continental Illinois National Bank and Trust Company.

GEORGE E. SHAMBAUGH, retired, Chicago, who graduated from the University of Pennsylvania School of Medicine in 1895, died November 30, aged 78. He was professor emeritus of otolaryngology, (Rush) University of Illinois College of Medicine, and otologist and laryngologist (emeritus), Presbyterian Hospital.

GEORGE CURTIS SHOCKEY, Franklin Park, who graduated at the University of Nebraska College of Medicine, Omaha, in 1902, died August 7, aged 74. Served during World War I. He was affiliated with West Suburban Hospital in Oak Park and Westlake Hospital in Melrose Park.

JOHN WESLEY TILDEN, JR., Chicago, who graduated at Meharry Medical College, Nashville, Tennessee, in 1918, died August 1, aged 55, of organic heart disease.

LOUIS H. WIMAN, Princeton, who graduated at the Medical College of Indiana, Indianapolis, in 1904, died August 24, aged 70, of heart disease. He was a past president of the Bureau County Medical Society.

ALBERT ZRUNEK, Chicago, who graduated from Univerzita Komenského Fakulta Lékárska, Bratislava in 1922, died recently, aged 54. He was on the staff of the Chicago Memorial Hospital and had practiced medicine in Chicago for 22 years.

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